WESTCOAST TRANSMISSION COMPANY LIMITED

ENVIRONMENTAL MAPS

IN THE MATTER OF the National Energy Board Act

AND IN THE MATTER OF an international pipeline

AND IN THE MATTER OF an application by Wescoast Transmission Company Limited for a Certificate of Public Convenience and Necessity to construct certain pipeline in British Columbia

VOLUME III (Part 1, Tab 4)
Yukon Pipeline Project

ENVIRONMENTAL MAPS
15 November 1976

ENVIRONMENTAL IMPACT ASSESSMENT

of the

PROPOSED YUKON PIPELINE

(BRITISH COLUMBIA SECTION)

VOLUME III

MAP FOLIO

November 1976

for

WESTCOAST TRANSMISSION COMPANY LIMITED
VANCOUVER - CANADA

by

C.D. SCHULTZ & COMPANY LIMITED
VANCOUVER - CANADA

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LEGEND

INVENTORY MAPS

A

Maps 3–7

Scale 1 : 250 000

WILDLIFE RESOURCES

MAMMALS

- Ungulate Winter Range
- Ungulate Summer Range
- Potential Denning Sites
- Ungulate Migration Route
- (M) Moose
- (E) Elk
- (S) Sheep
- (G) Goat
- (C) Caribou
- (D) Deer
- (Bg) Grizzly Bear

BIRDS

- Waterfowl
- Falconiform Raptors

FISH RESOURCES

- Fish Presence Confirmed
- Fish Likely, Habitat Present
- Fish Unlikely, Habitat Unsuitable
- Fish Unlikely, Sampling Unproductive

Habitat Potential and Use of Fish Resources in Watercourses of Confirmed Fish Presence

- S Spawning Potential (Undetermined Time)
- Ss Spring Spawning Likely
- Sf Fall Spawning Likely
- W Wintering Potential
- Fr Fishery Reported (Recreational)
- Fd Fishery Reported (Domestic)
- * Hotsprings Population

VEGETATION

1. Sub-alpine Forest
2. Mixed Forest
3. Pine-Spruce Forest
4. Aspen Forest
5. White Spruce Forest
6. Pine Forest
7. Floodplain Forest
8. Mixed Coniferous Forest
9. Open Black Spruce
10. Tamorick Fen
11. Sedge Meadow
12. Deciduous Scrub
13. Old Burn
14. Recent Burn

PERMAFROST

- 1 Permafrost up to 0.6 Metres Thick may be Present
- 4A Permafrost 1.2 to 2.1 Metres Thick may be Present
- 4B Permafrost 0.6 to 1.2 Metres Thick may be Present

(Continued)

B GENERALIZED GEOLOGY

SYMBOLS

All lithological boundaries are approximate or assumed.

- Inclined bedding; vertical bedding
- Anticline
- Syncline
- Inclined cleavage
- Fault – approximate boundary; assumed boundary
- Fault – Downthrow side indicated
- Xba Mineral occurence; ba – barite, Zn – zinc, Au – gold, fl – fluorite
- Inactive mines
- Mineral spring
- Field observation
- Drill hole data

ABBREVIATIONS

D	Dolomite
L	Limestone
PH	Phyllite, schist
Q	Quartzite
SLT	Siltstone
SS	Sandstone
SH	Shale, argillite, slate

FORMATION ABBREVIATIONS

KUK	Kotanlee Formation
KUD	Dunvegan Formation
KSU	Sully Formation
KSK	Sikanni Formation
KB	Buckinghorse Formation
TRLU	Ludington Formation
TRL	Liard Formation
TRT	Toad/Grayling Formation

ROCK UNITS

PLEISTOCENE AND RECENT

- Fluvial gravel, sand, silt; glacial outwash; till; glacial lacustrine; silty clay; swamp, muskeg.
- Olivine basalt flows.

TERTIARY

- Coal, clay.

PROTEROZOIC/PALEOZOIC/MESOZOIC DOMINANT CONSTITUENT

- Conglomerate and sandstone
- Sandstone and siltstone
- Q Quartzite
- Shale, argillite, and siltstone
- PH Phyllite, schist
- Limestone
- D Dolomite

EXPLANATION of MAP COMPILATION

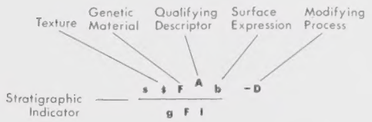
Map data is generalized from the geological maps indicated below and from observation points indicated on the map sheets. Complete references are listed in the report.

Geological Survey of Canada: 46–1962; 1343A; 110A; 19–1966; 2–1968; 3–1968; Fig. 4 Memoir 250; 1000 A; Annual Report 1887 Volume 3D Sheet 2; Annual Report 1888–1889 Volume 4D.
B.C. Petroleum Resource Branch File 1440

The dominant bedrock type is mapped wherever known independent of the depth of surficial deposits.

C SURFICIAL and BEDROCK GEOLOGY

EXAMPLE OF TERRAIN UNIT SYMBOLOGY



A blanket of sandy Fluvial silts overlying coarse fluvial deposits in active floodplain environment in which deflation (removal of fines by wind action) is taking place.

TEXTURE

b	bouldery
k	cobbly
p	pebbly
s	sandy
ŝ	silty
c	clayey
a	blocky
r	rubbly
g	gravelly
f	fines

GENETIC MATERIALS

C	Colluvial
E	Aeolian
F	Fluvial
L^G	Fluvial glacial
L	Glacial lacustrine
M	Morainal
O	Organic
OB	sphagnum
OF	grasses
OS	water
R	Bedrock

TOPOGRAPHIC SURFACE EXPRESSION

a	apron
b	blanket (thickness greater than 1m)
f	fan
h	hummocky
m	subdued (slope to 10° local relief >1m)
p	level plain (slope to 5° local relief <1m)
r	ridged (slopes 10–35° local relief >1m)
s	steep (slopes >35°)
t	terraced
v	veneer (thickness <1m)

MODIFYING EROSION

~A	avalanched (A)
–D	deflated (A)
–E	eroded (I)
–F	failing (A)
–K	karst modified (A)
–P	piping (A)
–V	gullied (A)

Note: A = Active, I = Inactive

Notes
Can use 2 textural classes:
eg. ŝL or sL/ŝL

: equal eg. C:F s
/ dominant subdominant C/F t
// very dominant to very subdominant C//F v

SYMBOLS

- Approximate Unit Boundary
- Escarpment
- Gully
- K Karst
- Blockfield
- Rock Glacier
- Landslide Scar
- Cirque
- Drumlinoid direction known direction unknown
- Crag and Tail
- Morainal Ridge
- Eskers direction known direction unknown
- Meltwater Channel major minor
- Bedding in Bedrock
- Fold Axis in Bedrock
- Shothole Data
- G Gravel Pit
- 37 Observation Point

EXPLANATION of MAP COMPILATION

The maps are compiled from aerial photographic interpretation with limited field checking as indicated by: the observation points; seismic shot hole data; and the following **sources:** Geological Survey of Canada maps 46–1962; 110A 19–1966; 3–1969.

The Terrain Classification System used is a slight modification of that used by Environmental Land Use Committee Secretariat Victoria, B.C.

D LAND USE INVENTORY

- L 705 Map Unit No.
- Trapping Territories
- Game Management Unit Boundaries
- 7-48 Game Management Unit and Sub-unit
- Forestry - P.S.Y.U. Boundary
- Indian Reserve
- Provincial Park
- Picnic Site
- Camp Site
- Viewpoint
- Mineral Claim
- Microwave Tower
- Repeater Station
- Alaska Highway Maintenance Camp
- Historic Site
- Potential Archaeological Site
- Historic Trail and Portage

LEGEND

SITES OF ENVIRONMENTAL SENSITIVITY

Maps 8 – 26 Scale 1 : 50,000

(a) BIOTA and HYDROLOGY

WILDLIFE
- Mammals
- Birds

AQUATIC BIOTA

VEGETATION

HYDROLOGY

EXAMPLE OF TERRAIN UNIT SYMBOLOGY

A blanket of sandy Fluvial silts overlying coarse fluvial deposits in active floodplain environment in which deflation (removal of fines by wind action) is taking place.

TEXTURE

b	bouldery
k	cobbly
p	pebbly
s	sandy
ṡ	silty
c	clayey
o	blocky
r	rubbly
g	gravelly
f	fines

GENETIC MATERIALS

C	Colluvial
E	Aeolian
F	Fluvial
fG	Fluvial glacial
L	Glacial lacustrine
M	Morainal
O	Organic
OB	sphagnum
OF	grasses
OS	water
R	Bedrock

TOPOGRAPHIC SURFACE EXPRESSION

a	apron
b	blanket (thickness greater than 1m)
f	fan
h	hummocky
m	subdued (slope to 10° local relief >1m)
p	level plain (slope to 5° local relief <1m)
r	ridged (slopes 10–35° local relief >1m)
s	steep (slopes > 35°)
t	terraced
v	veneer (thickness <1m)

MODIFYING EROSION

–A	avalanched	(A)
–D	deflated	(A)
–E	eroded	(I)
–F	failing	(A)
–K	karst modified	(A)
–P	piping	(A)
–V	gullied	(A)

Note: A = Active, I = Inactive

Notes:
- Can use 2 textural classes: eg. sṡL or sL/ṡL
- : equal eg. C:F
- / dominant to subdominant C/F
- // very dominant to very subdominant C//F

(b) SURFICIAL and BEDROCK GEOLOGY

SYMBOLS
- Approximate Unit Boundary
- Escarpment
- Gully
- (K) Karst
- Blockfield
- Rock Glacier
- Landslide Scar
- Cirque
- Drumlinoid: direction known / direction unknown
- Crag and Tail
- Morainal Ridge
- Eskers: >>>>> direction known; <> <> direction unknown
- Meltwater Channel: major / minor
- Bedding in Bedrock (S)
- Fold Axis in Bedrock
- Shothole Data (87)
- (G) Gravel Pit
- (37) Observation Point

EXPLANATION of MAP COMPILATION

The maps are compiled from aerial photographic interpretation with limited field checking as indicated by : the observation points; seismic shot hole data; and the following **sources:** Geological Survey of Canada maps 46 – 1962 : 110A 19 – 1966; 3 – 1969.

The Terrain Classification System used is a slight modification of that used by the Environmental Land Use Committee Secretariat Victoria, B.C.

(c) PERMAFROST

1 Linear Patterned Slopes with discontinuous permafrost up to 0.6 metres thick present.

2 Well Drained Mineral Soils with no permafrost.

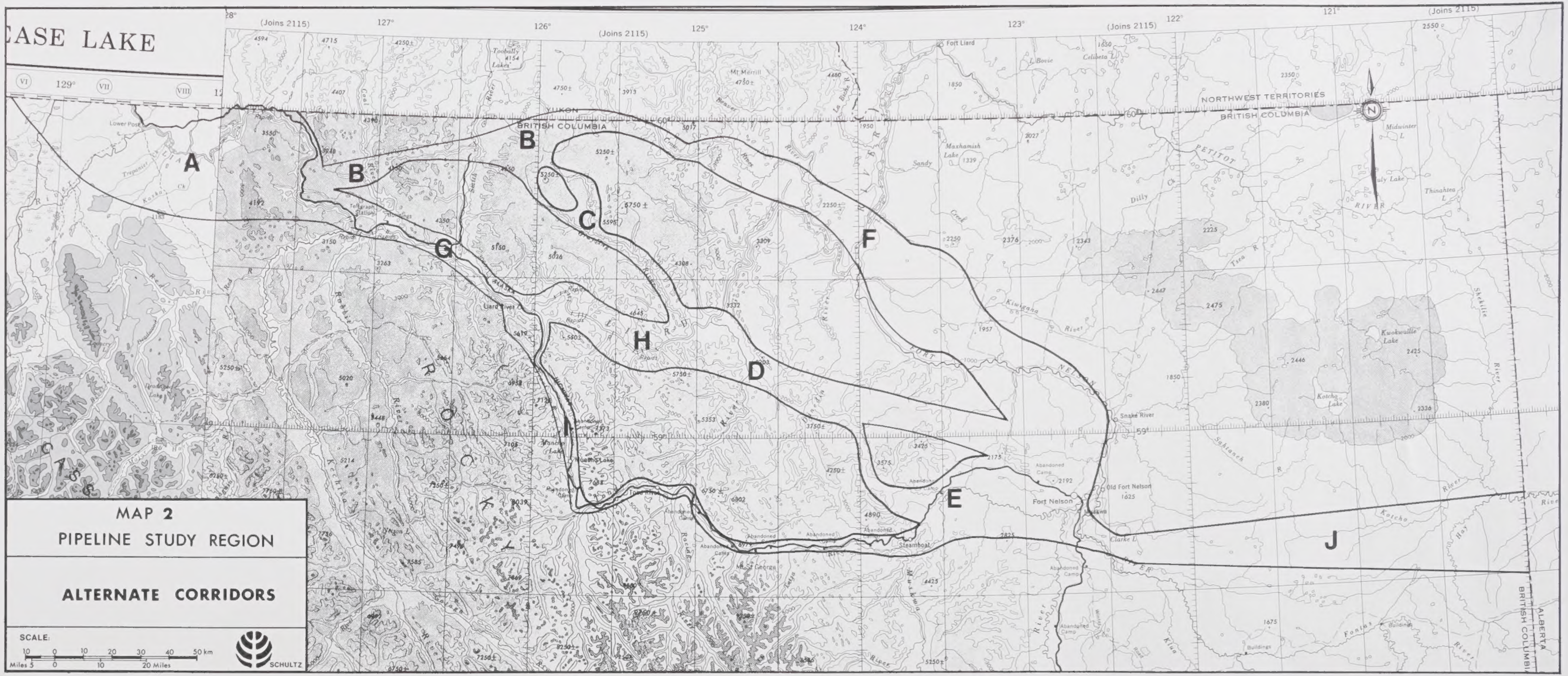
3 Waterlogged Flat Lands Possible isolated permafrost in peat.

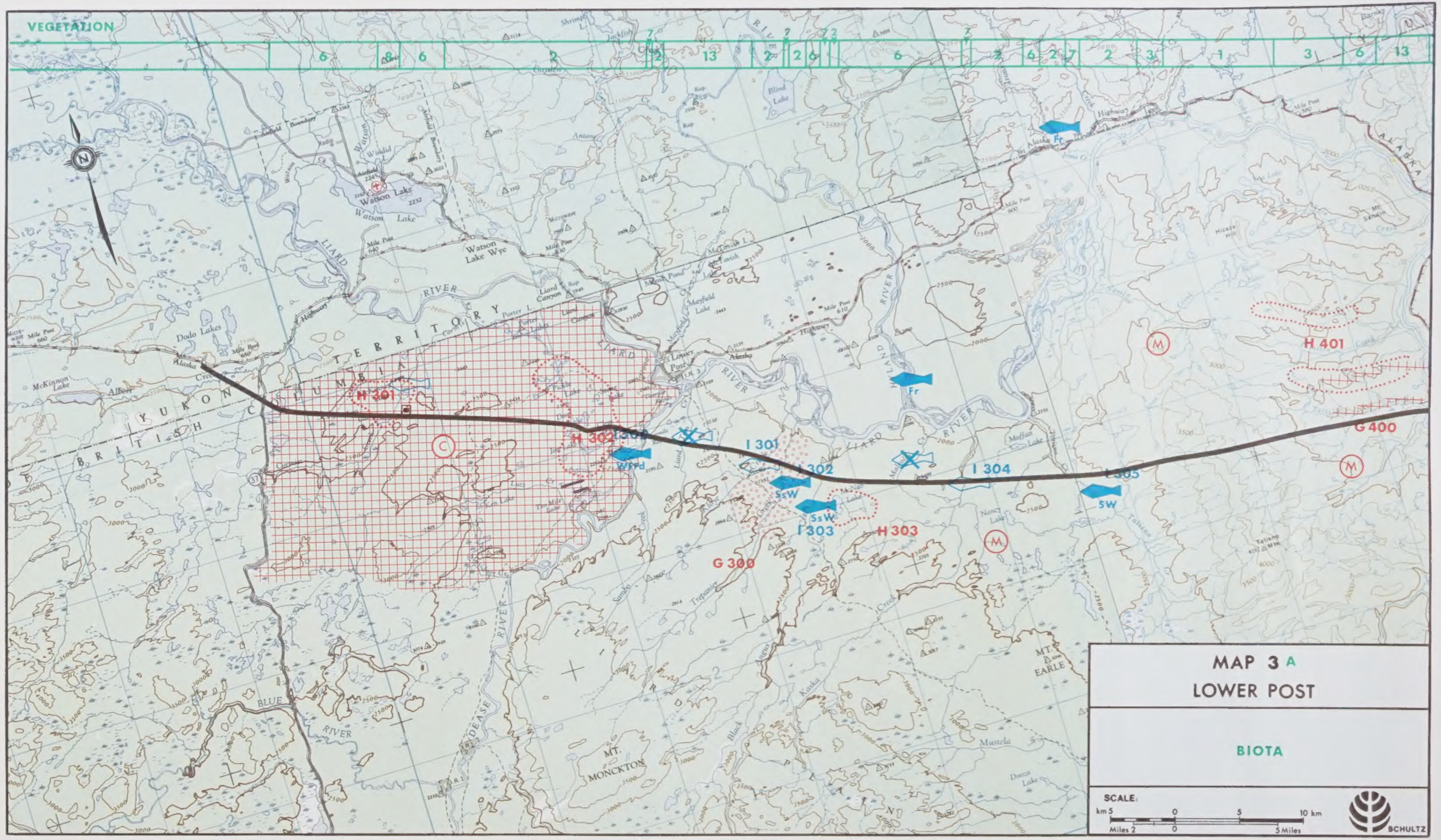
4A Organic Terrain Discontinuous permafrost 1.2 to 2.1 metres thick present.

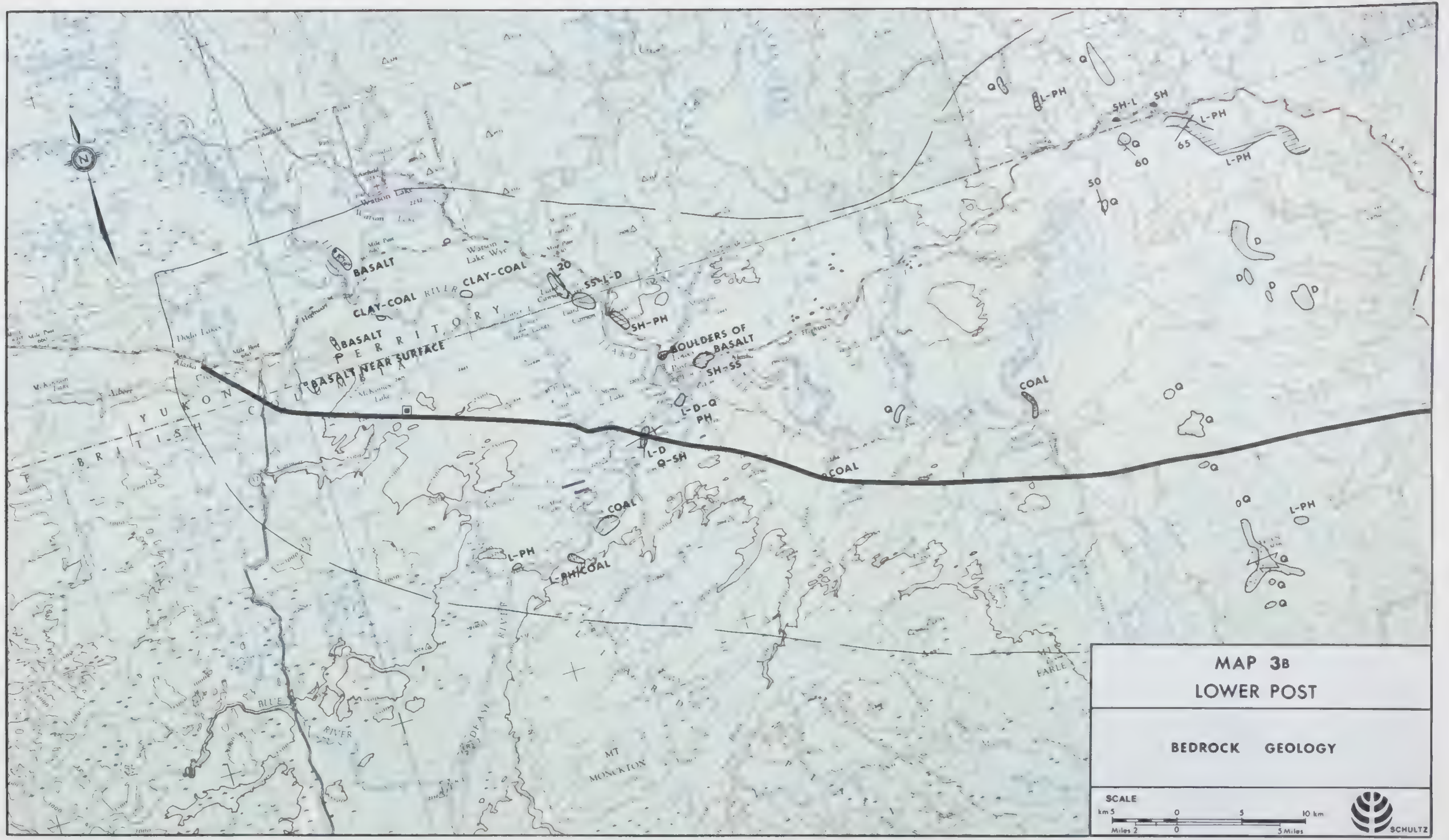
4B Organic Terrain Discontinuous permafrost 0.6 to 1.2 metres thick present.

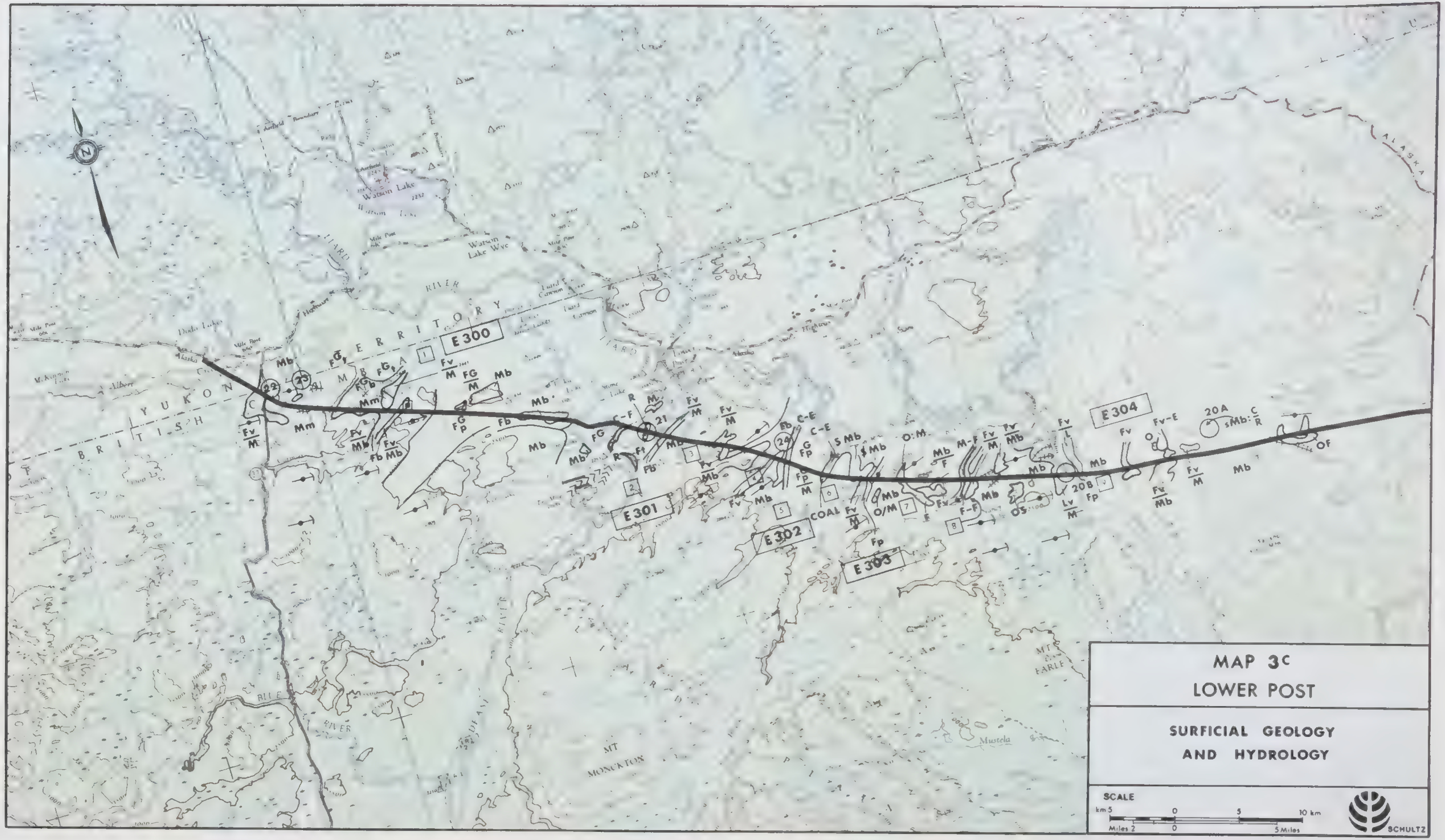
5 Kame and Kettle Possible isolated occurrence permafrost in organic matter.

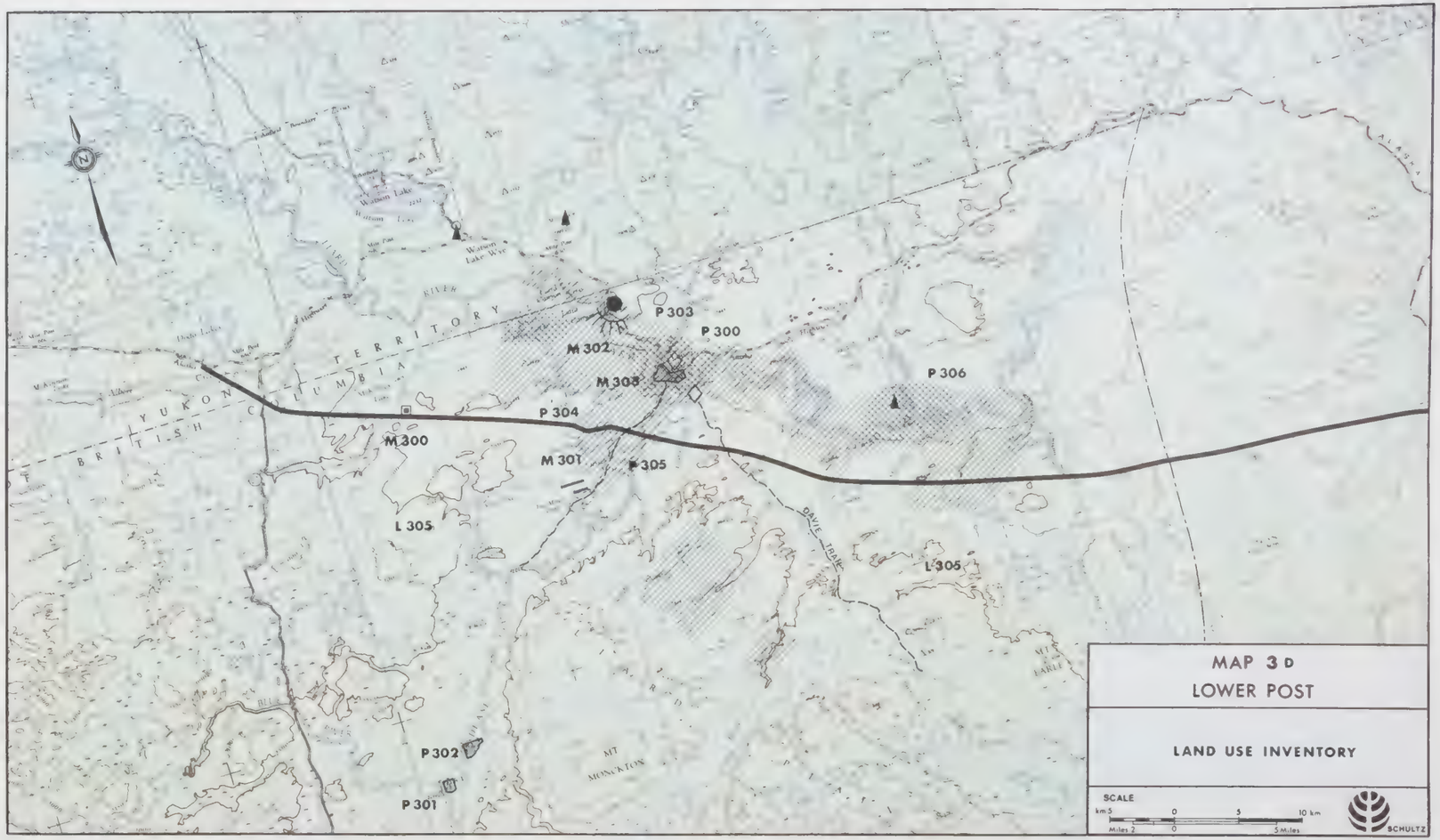

MAP 1
GENERAL LOCATION
of
YUKON PIPELINE
(B.C. SECTION)
SCALE:
km 50 0 50 100 km
Miles 25 0 50 100 Miles
SCHULTZ
140°
135°
130°
125°
120°
115°
110°
60°
55°
PACIFIC
ALASKA
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
COAST MOUNTAINS
CASSIAR MOUNTAINS
SKEENA MOUNTAINS
ROCKY MOUNTAINS
BIRCH MOUNTAINS
CARIBOU MTNS
CLEAR HILLS
SWAN HILLS
BUFFALO HEAD HILLS
WOOD BUFFALO NATIONAL PARK
ALASKA HIGHWAY
MACKENZIE HIGHWAY
YELLOWHEAD HIGHWAY
WHITEHORSE
CARCROSS
TESLIN
ATLIN
YAKUTAT
Fairweather Mtn. 15,300
GUSTAVUS
JUNEAU
SITKA
PETERSBURG
WRANGELL
CRAIG
KETCHIKAN
ANNETTE ISLAND
PRINCE RUPERT
TERRACE
STEWART
KITSAULT
SMITHERS
TAKLA LANDING
WATSON LAKE
SMITH RIVER
MUNCHO LAKE
FORT NELSON
NELSON FORKS
FORT LIARD
DEASE LAKE
FORT WARE
HUDSON HOPE
FORT ST. JOHN
DAWSON CREEK
MACKENZIE
FORT ST. JAMES
BURNS LAKE
TCHESINKUT LAKE
PRINCE GEORGE
SUMMIT LAKE
RAINBOW LAKE
FOOTNER LAKE
FORT VERMILION
HAY RIVER
FORT SMITH
FORT FITZGERALD
URANIUM CITY
FORT CHIPEWYAN
EMBARRAS
FORT McMURRAY
PEACE RIVER
GRANDE PRAIRIE
SLAVE LAKE
ATHABASCA
LAC LA BICHE
COLD LAKE
WHITECOURT
EDMONTON
NAMAO
COOKING LAKE
VERMILION
LLOYDMINSTER


CASE LAKE
MAP 2
PIPELINE STUDY REGION
ALTERNATE CORRIDORS
SCALE:
10 0 10 20 30 40 50 km
Miles 5 0 10 20 Miles
SCHULTZ
(Joins 2115)
YUKON
BRITISH COLUMBIA
NORTHWEST TERRITORIES
ALBERTA
A
B
C
D
E
F
G
H
I
J
Fort Liard
Fort Nelson
Old Fort Nelson
Steamboat
Snake River
Liard River
PETITOT RIVER
FORT NELSON
Kwokwullie Lake
Kotcho Lake
Maxhamish Lake


VEGETATION
MAP 3 A
LOWER POST
BIOTA
SCALE:
km 5
0
5
10 km
Miles 2
0
5 Miles
SCHULTZ
Watson Lake
Watson Lake Wye
YUKON TERRITORY
BRITISH COLUMBIA
LIARD RIVER
DEASE RIVER
BLUE RIVER
MT. MONCKTON
MT. EARLE
ALASKA HIGHWAY
Lower Post
Dodo Lakes
McKinnon Lake
H 301
H 302
H 303
H 401
I 301
I 302
I 303
I 304
I 305
G 300
G 400
Fr
SsW
Wfrd


MAP 3B
LOWER POST
BEDROCK GEOLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ
BASALT
CLAY-COAL
CLAY-COAL
BASALT
BASALT NEAR SURFACE
SS-L-D
SH-PH
BOULDERS OF BASALT
SH-SS
L-D-Q
PH
L-D
Q-SH
COAL
COAL
L-PH
L-PH-COAL
COAL
L-PH
SH-L
SH
L-PH
L-PH
COAL
L-PH
YUKON
BRITISH COLUMBIA
TERRITORY
ALASKA
MT MONCKTON
BLUE RIVER
DEAN RIVER

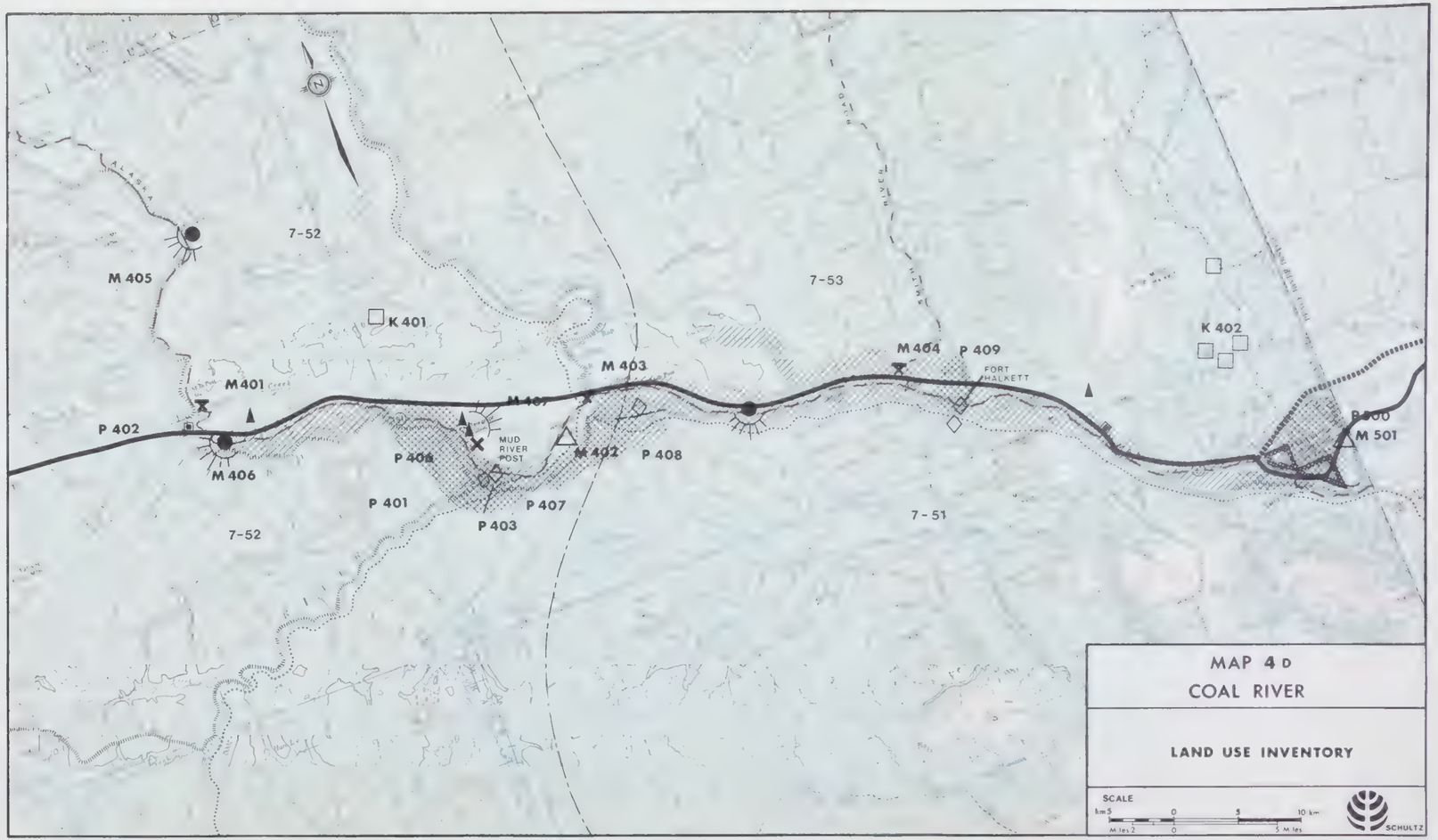

MAP 3c
LOWER POST
SURFICIAL GEOLOGY
AND HYDROLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ
YUKON TERRITORY
BRITISH COLUMBIA
ALASKA
Watson Lake
Watson Lake Wye
RIVER
MT MONCKTON
E 300
E 301
E 302
E 303
E 304

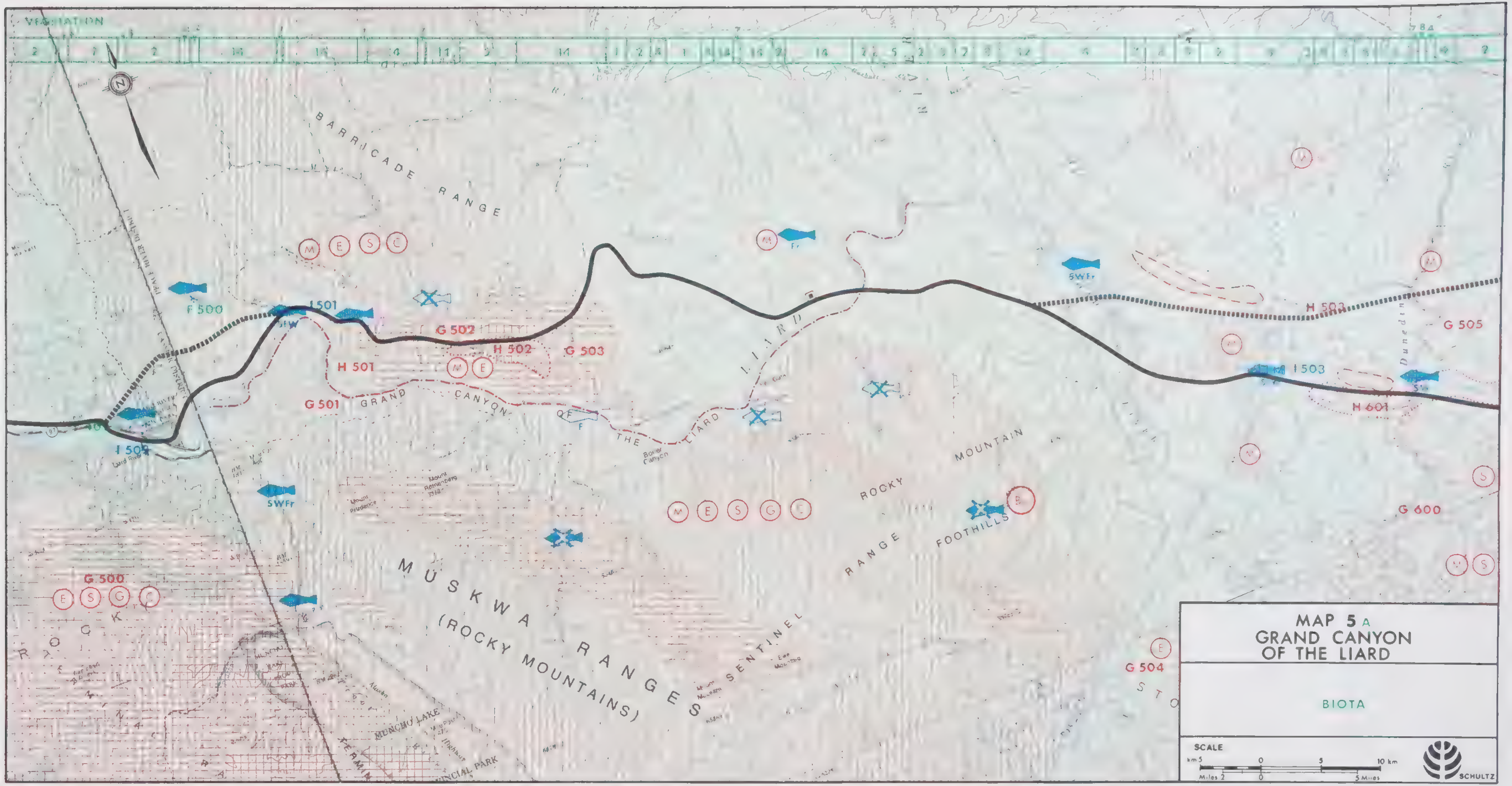

P 303
P 300
M 302
M 303
P 306
P 304
M 300
M 301
P 305
L 305
L 305
P 302
P 301
MT MONCKTON
DAVIE CREEK
YUKON TERRITORY
BRITISH COLUMBIA
ALASKA
MAP 3 D
LOWER POST
LAND USE INVENTORY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ

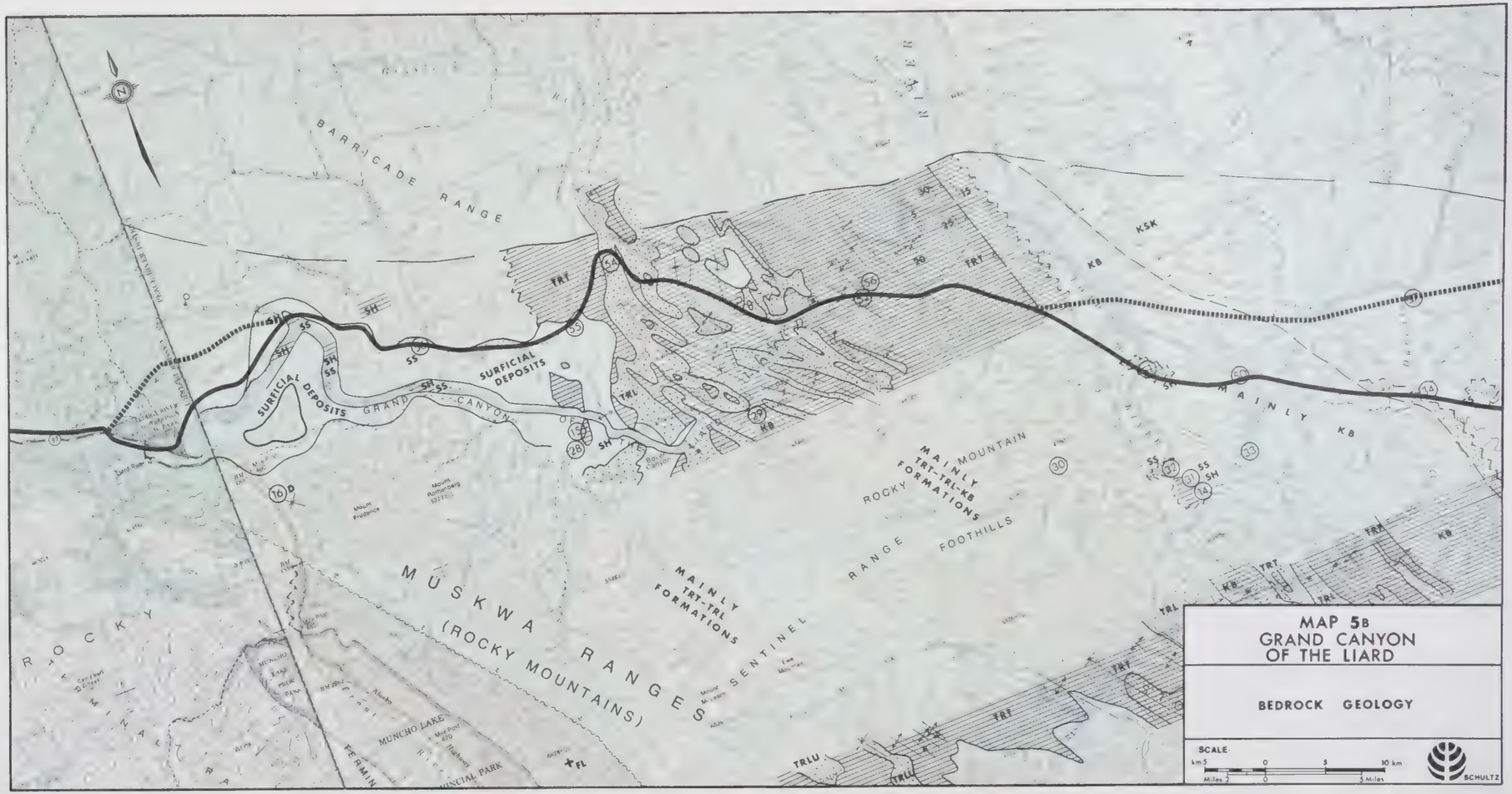

VEGETATION
ALASKA
H 401
I 400
I 401
G 400
H 402
I 400
H 403
H 404
I 402
G 500
SWFr
MAP 4
COAL RIVER
BIOTA
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ

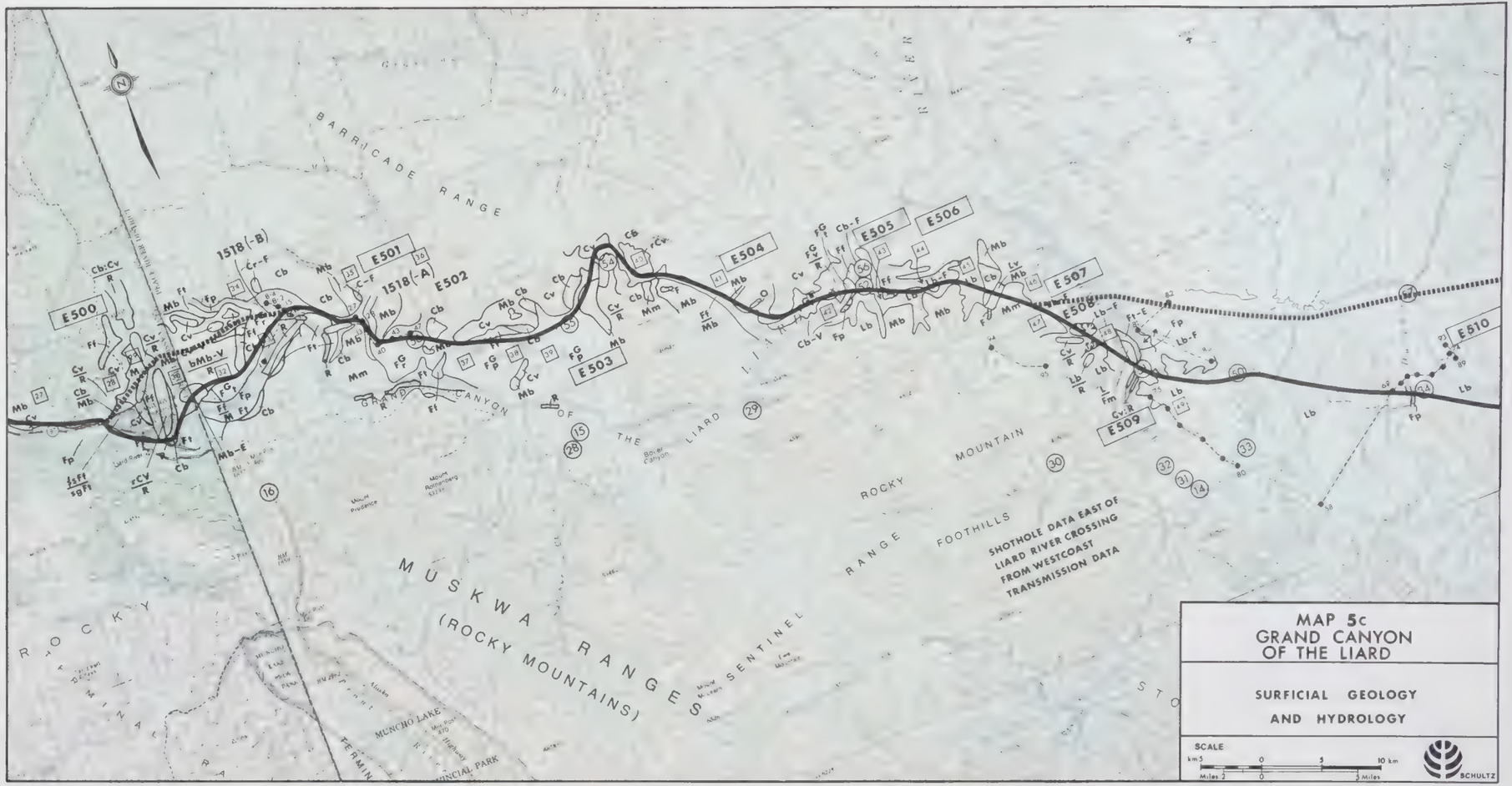

PORCUPINE BAR
BEDROCK BAR
BA-PB-ZN
COAL CLAY
McCULLOUGH BAR
Q-L-PH SLT-SS
L-PH
AU
CU
FL
FL-BA
SH
MAP 4B
COAL RIVER
BEDROCK GEOLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ

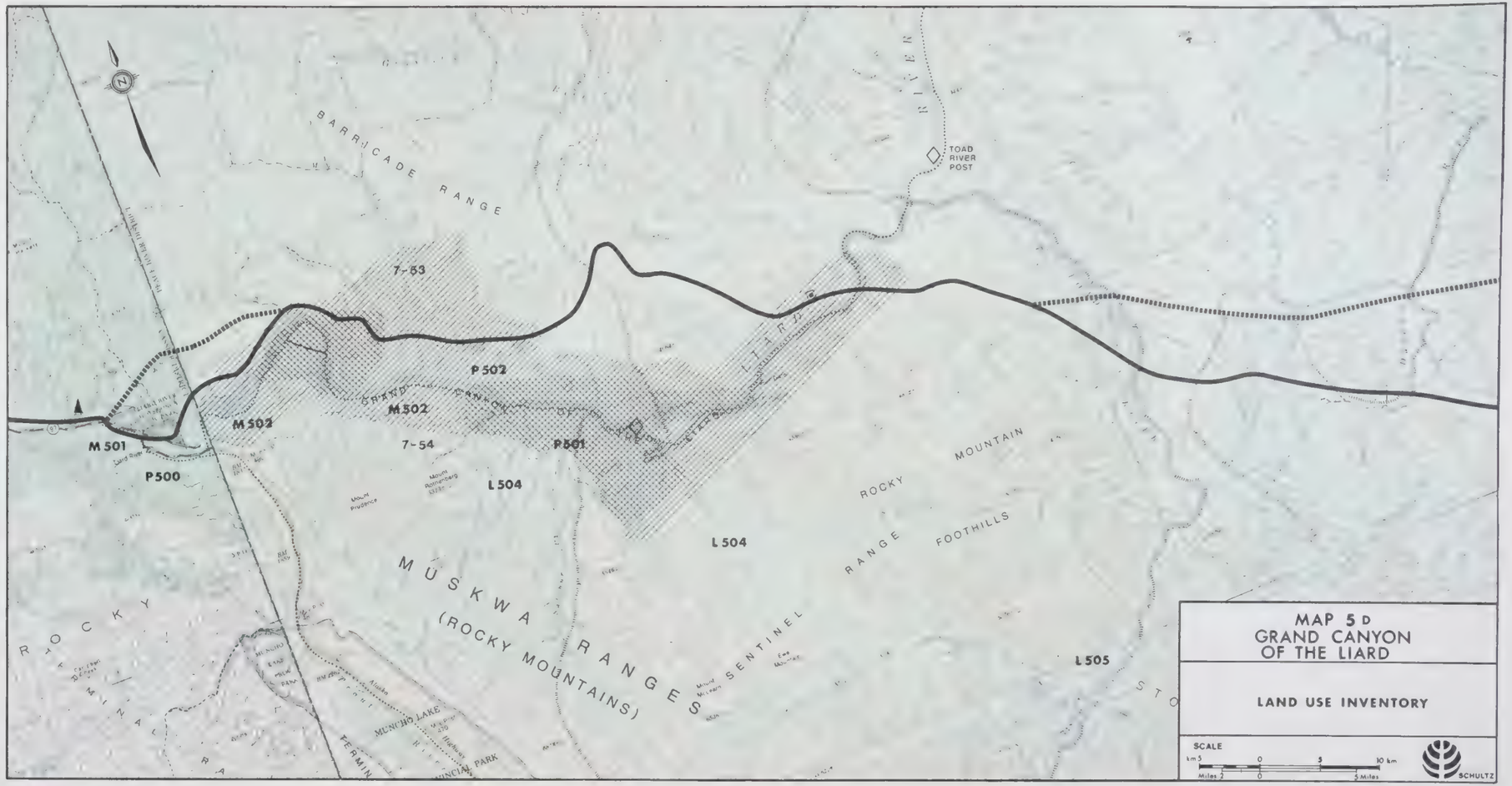

E 400
E 401
E 402
MAP 4c
COAL RIVER
SURFICIAL GEOLOGY
AND HYDROLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 3 Miles
SCHULTZ

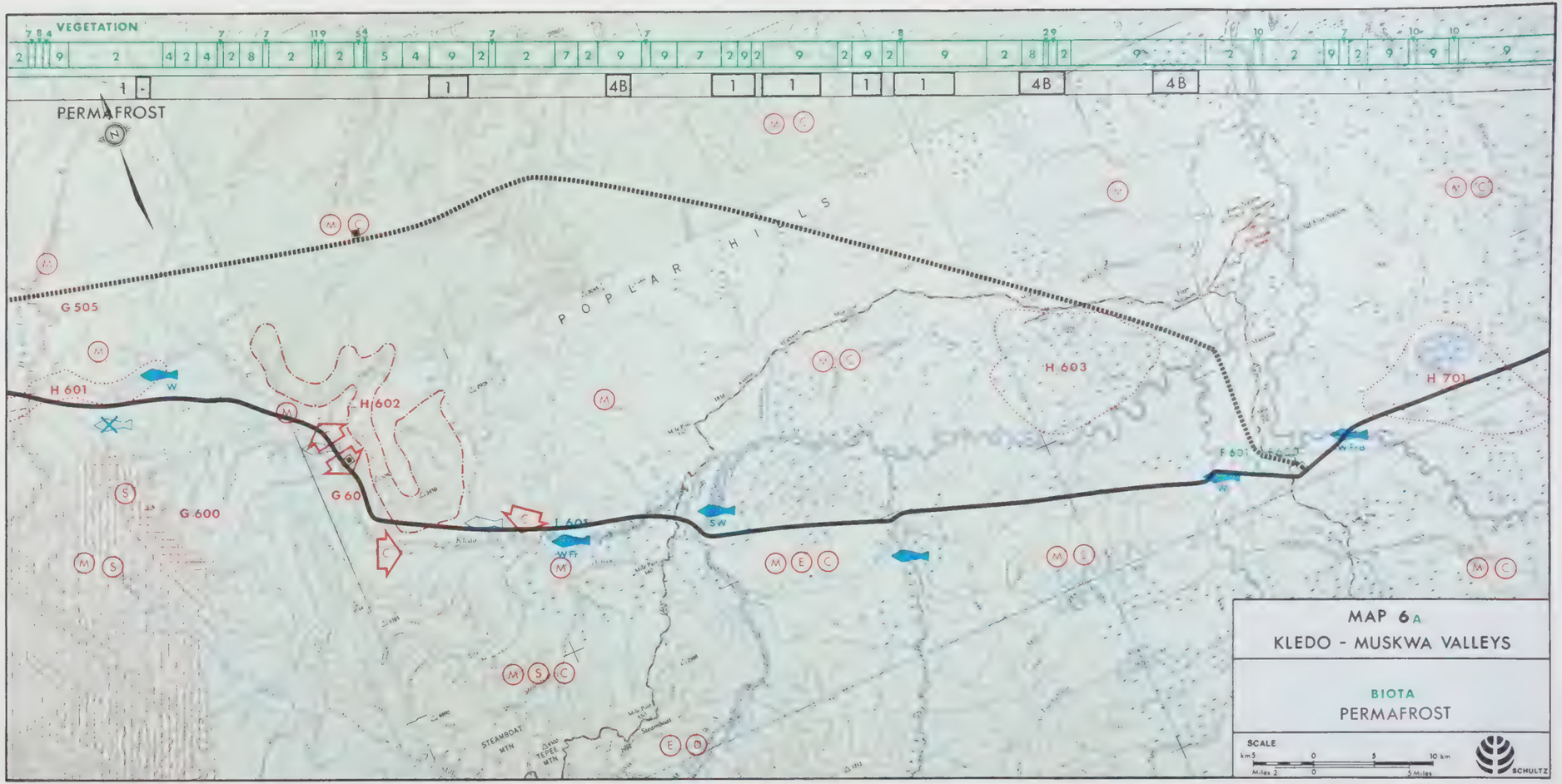

ALASKA
7-52
M 405
K 401
M 401
P 402
M 406
P 401
7-52
P 403
P 404
MUD RIVER POST
M 407
M 403
M 402
P 408
P 407
7-53
M 404
P 409
FORT HALKETT
K 402
P 500
M 501
7-51
MAP 4 D
COAL RIVER
LAND USE INVENTORY
SCALE
km 5 0 5 10 km
Miles 2 0 3 Miles
SCHULTZ


VEGETATION
BARRICADE RANGE
LIARD
GRAND CANYON OF THE LIARD
MUSKWA RANGES
(ROCKY MOUNTAINS)
ROCKY MOUNTAIN FOOTHILLS
SENTINEL RANGE
MUNCHO LAKE
PROVINCIAL PARK
F 500
I 501
I 502
I 503
G 500
G 501
G 502
G 503
G 504
G 505
G 600
H 501
H 502
H 503
H 601
SWFr
MAP 5 A
GRAND CANYON
OF THE LIARD
BIOTA
SCALE
SCHULTZ

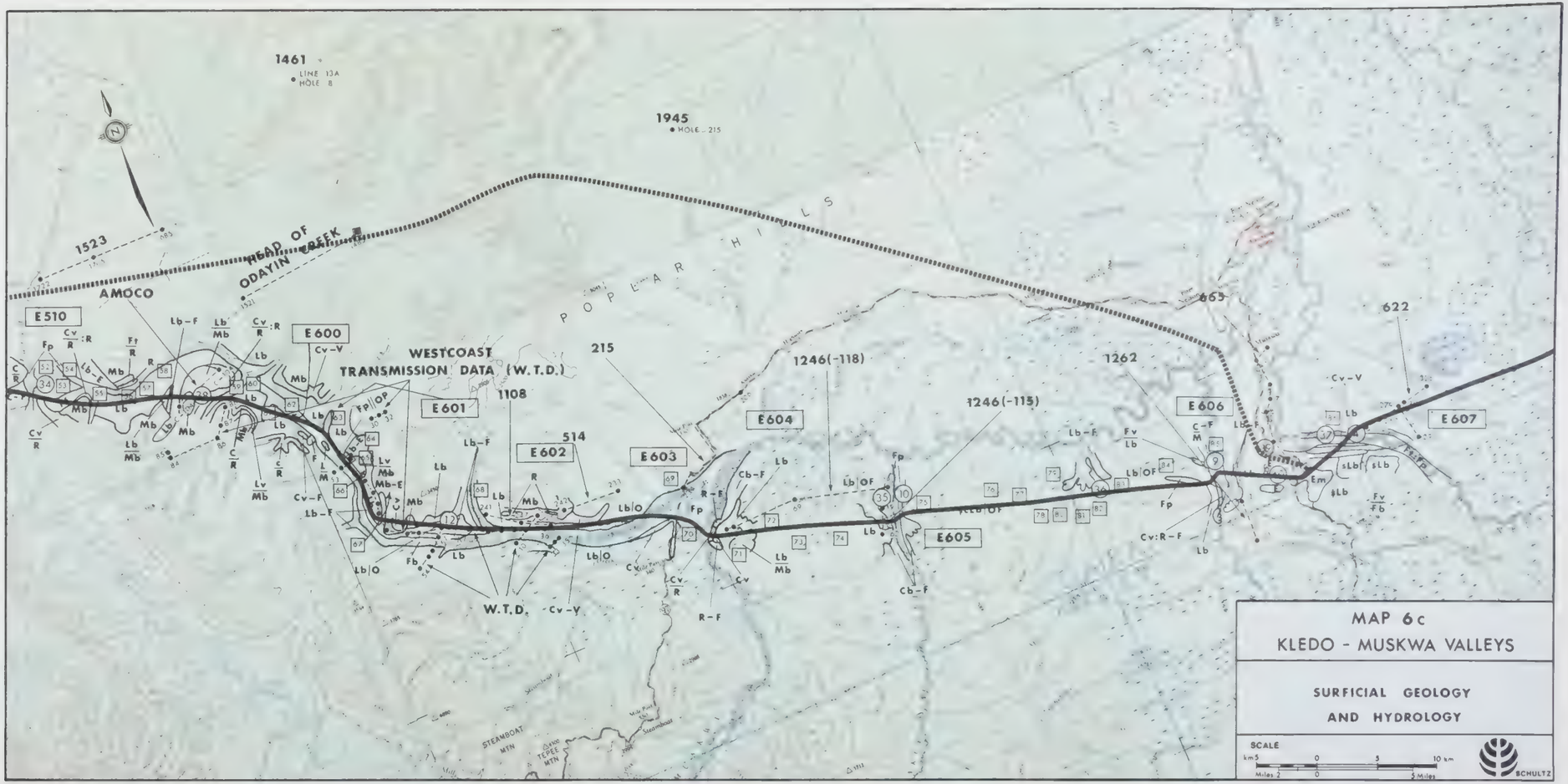

BARRICADE RANGE
SURFICIAL DEPOSITS
GRAND CANYON OF THE LIARD
MAINLY TRT-TRL-KB FORMATIONS
ROCKY MOUNTAIN FOOTHILLS
MAINLY TRT-TRL FORMATIONS
MUSKWA RANGES (ROCKY MOUNTAINS)
SENTINEL RANGE
MUNCHO LAKE PROVINCIAL PARK
MAP 5B
GRAND CANYON OF THE LIARD
BEDROCK GEOLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 3 Miles
SCHULTZ

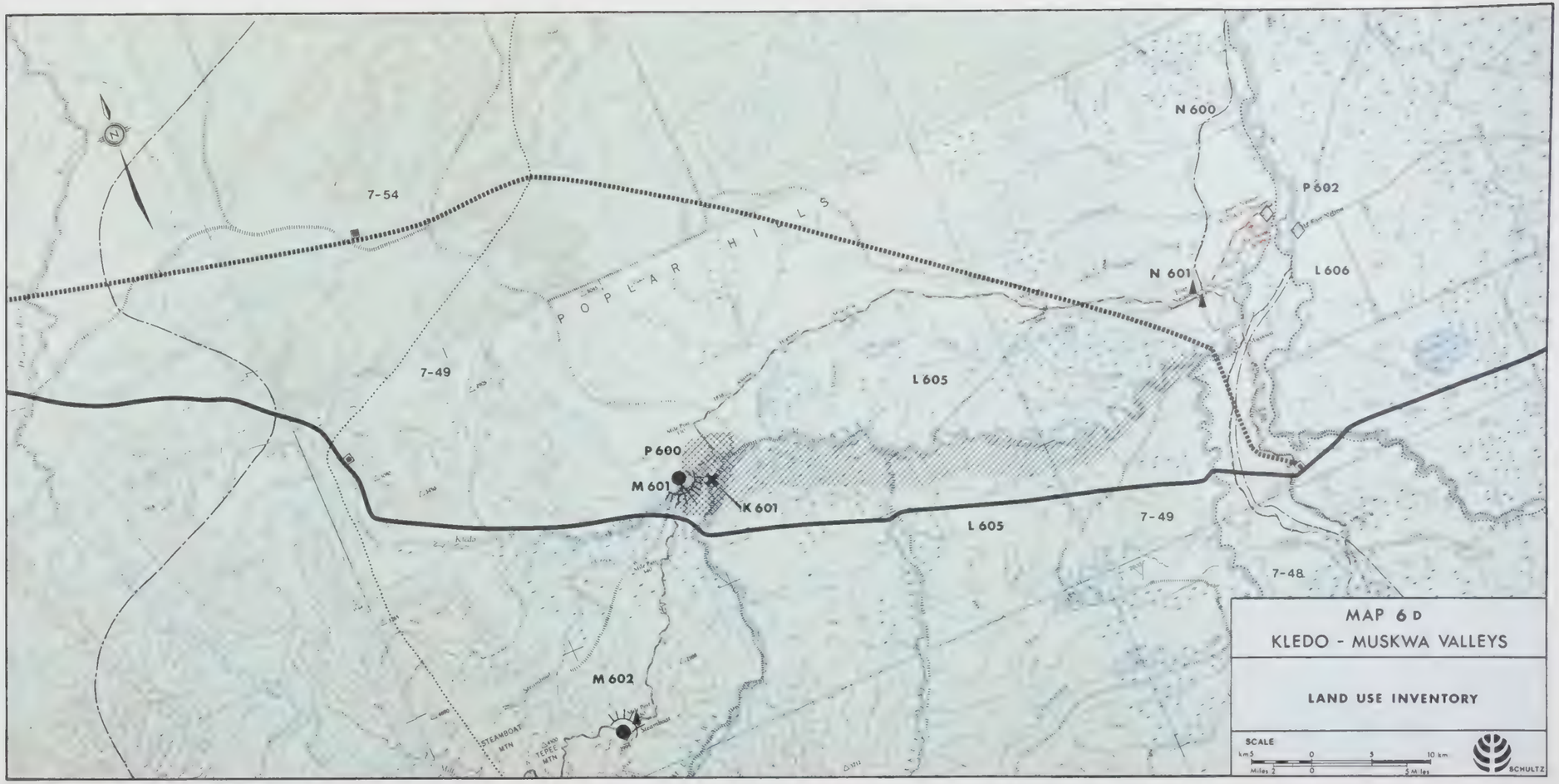

BARRICADE RANGE
GRAND CANYON OF THE LIARD
MUSKWA RANGES (ROCKY MOUNTAINS)
ROCKY MOUNTAIN FOOTHILLS
SENTINEL RANGE
MUNCHO LAKE
E500
E501
E502
E503
E504
E505
E506
E507
E508
E509
E510
1518(-A)
1518(-B)
SHOTHOLE DATA EAST OF LIARD RIVER CROSSING FROM WESTCOAST TRANSMISSION DATA
MAP 5c
GRAND CANYON OF THE LIARD
SURFICIAL GEOLOGY AND HYDROLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 3 Miles
SCHULTZ

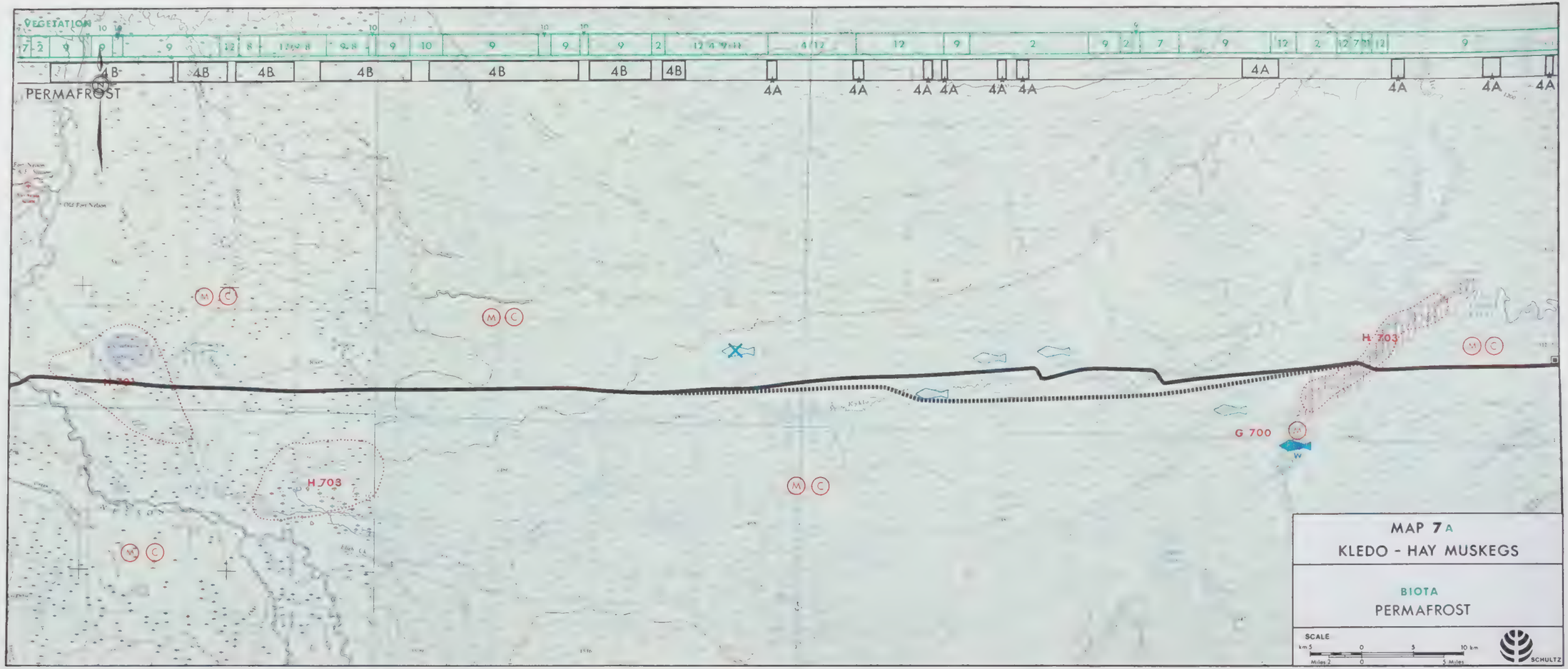

BARRICADE RANGE
TOAD RIVER POST
7-53
P502
M502
M502
M501
P500
7-54
P501
L504
L504
L505
MUSKWA RANGES (ROCKY MOUNTAINS)
ROCKY MOUNTAIN FOOTHILLS
SENTINEL RANGE
ROCKY
MUNCHO LAKE
MAP 5 D
GRAND CANYON OF THE LIARD
LAND USE INVENTORY
SCALE
SCHULTZ

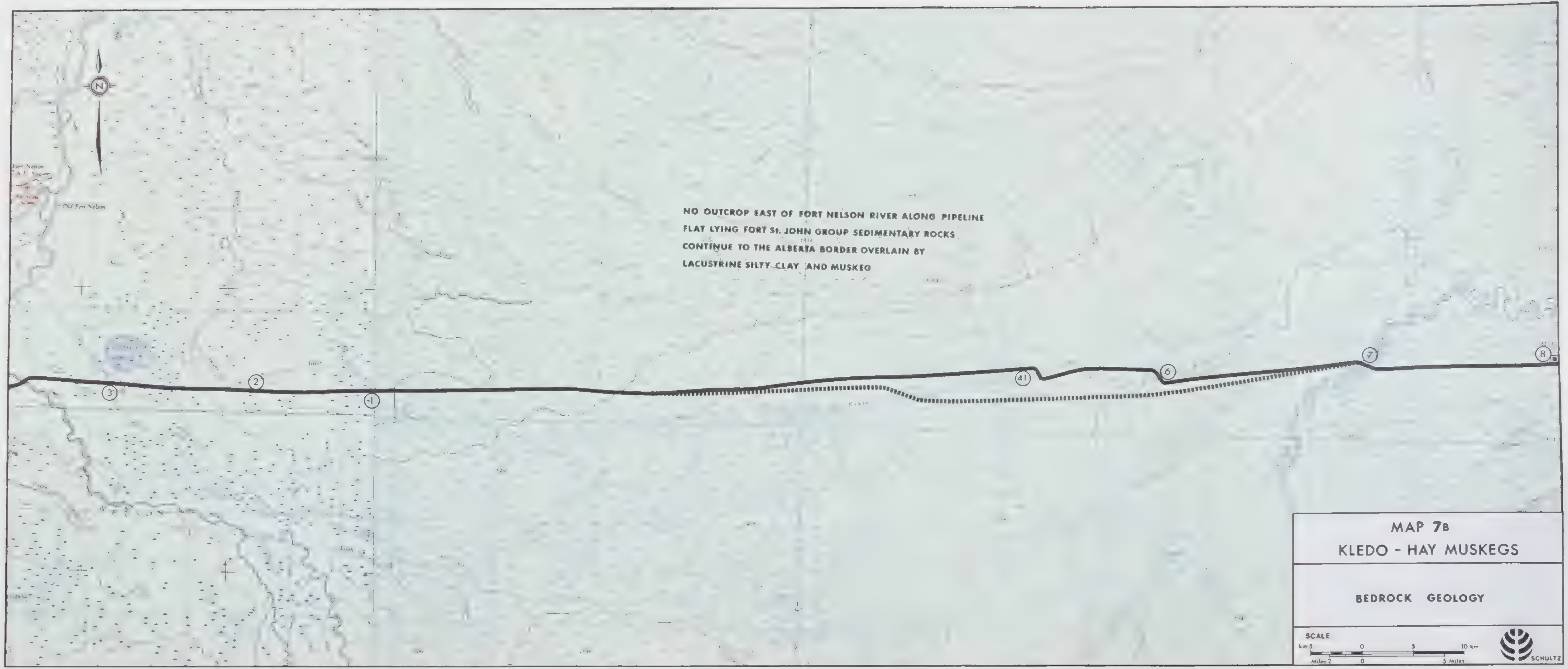

VEGETATION
PERMAFROST
POPLAR HILLS
G 505
H 601
H 602
H 603
H 701
G 600
G 60
LA01
F 60
STEAMBOAT MTN
TEFES MTN
MAP 6A
KLEDO - MUSKWA VALLEYS
BIOTA
PERMAFROST
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ


KUK
KSK
KUD
KSU
KB
CONTINUOUS TO THE EAST
MAP 6B
KLEDO - MUSKWA VALLEYS
BEDROCK GEOLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ

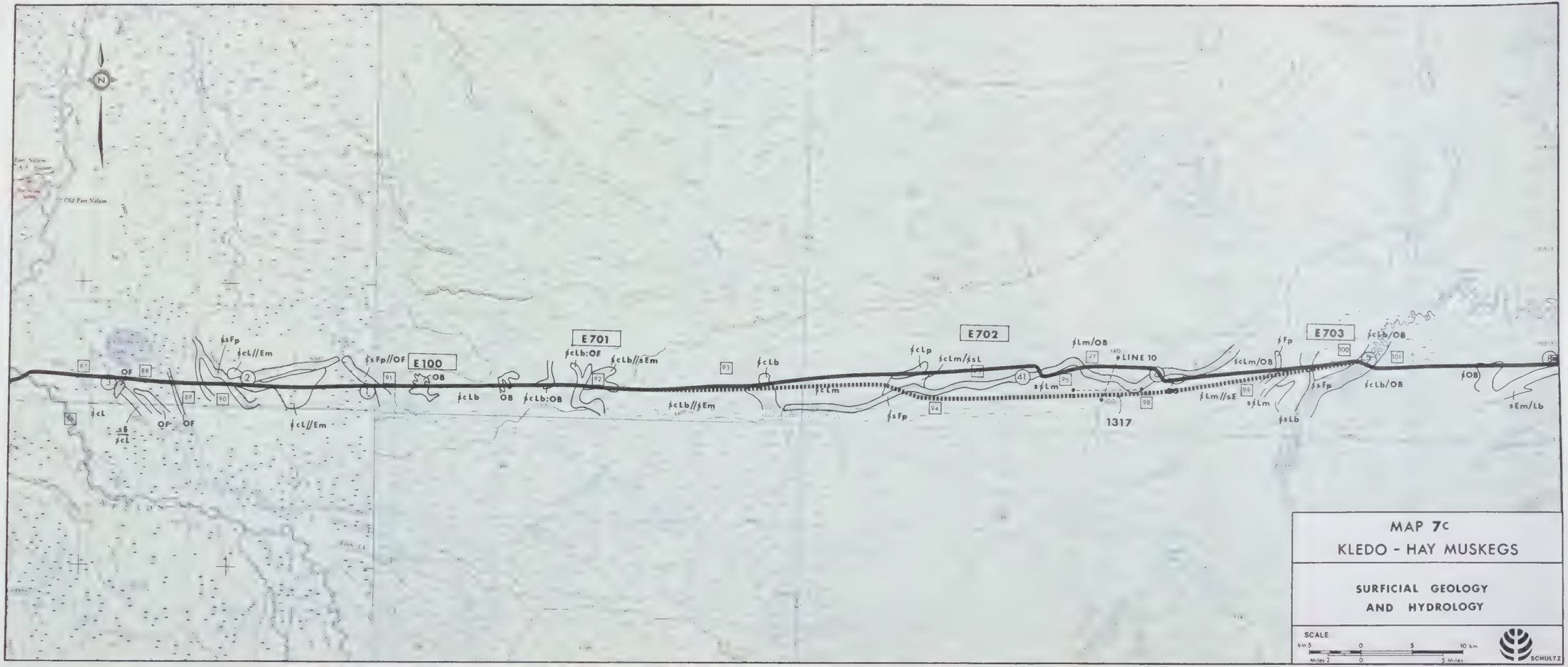

1461
LINE 13A
HOLE 8
1945
HOLE 215
1523
HEAD OF ODAYIN CREEK
AMOCO
E 510
E 600
E 601
E 602
E 603
E 604
E 605
E 606
E 607
WESTCOAST TRANSMISSION DATA (W.T.D.)
1108
215
514
1246(-118)
1246(-113)
1262
665
622
POPLAR HILLS
W.T.D.
STEAMBOAT MTN
TEPEE MTN
MAP 6c
KLEDO - MUSKWA VALLEYS
SURFICIAL GEOLOGY
AND HYDROLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ

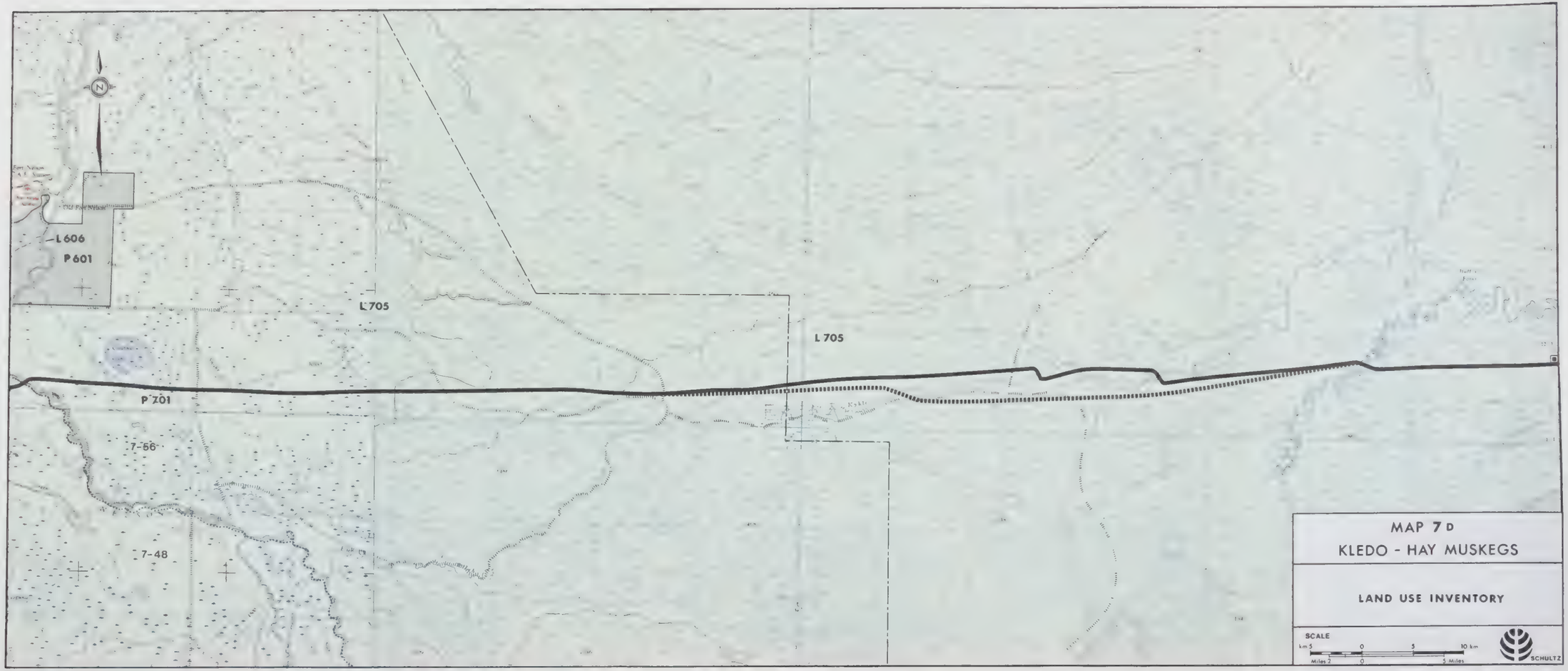

N 600
P 602
N 601
L 606
7-54
POPLAR HILLS
7-49
L 605
P 600
M 601
K 601
L 605
7-49
7-48
M 602
STEAMBOAT MTN
TEPEE MTN
MAP 6 D
KLEDO - MUSKWA VALLEYS
LAND USE INVENTORY
SCALE
Km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ


VEGETATION
PERMAFROST
4B
4A
H 701
H 703
G 700
MAP 7A
KLEDO - HAY MUSKEGS
BIOTA
PERMAFROST
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ



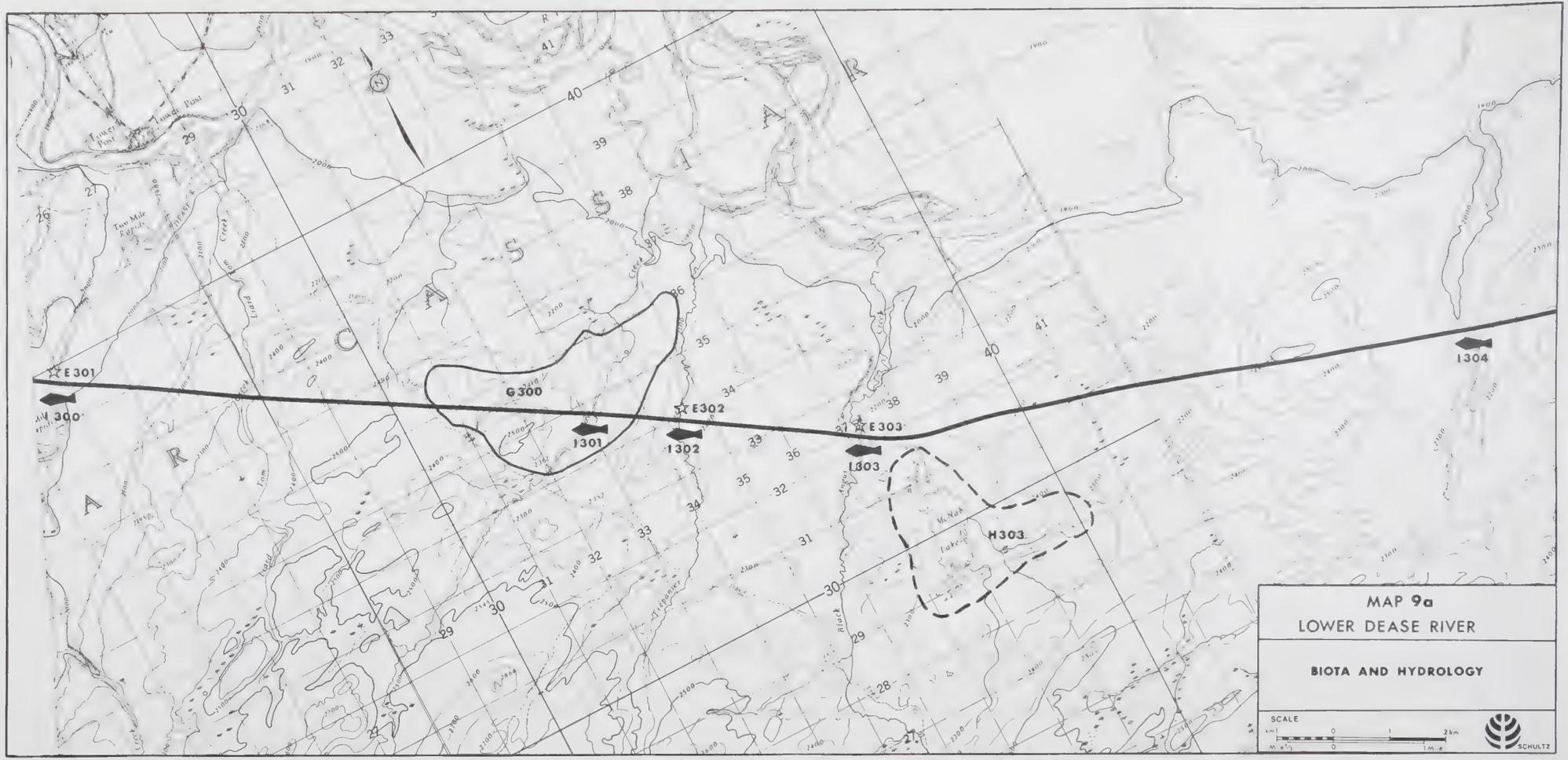
N
Old Fort Nelson
NO OUTCROP EAST OF FORT NELSON RIVER ALONG PIPELINE
FLAT LYING FORT St. JOHN GROUP SEDIMENTARY ROCKS
CONTINUE TO THE ALBERTA BORDER OVERLAIN BY
LACUSTRINE SILTY CLAY AND MUSKEG
3
2
1
41
6
7
8
MAP 7B
KLEDO - HAY MUSKEGS
BEDROCK GEOLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ

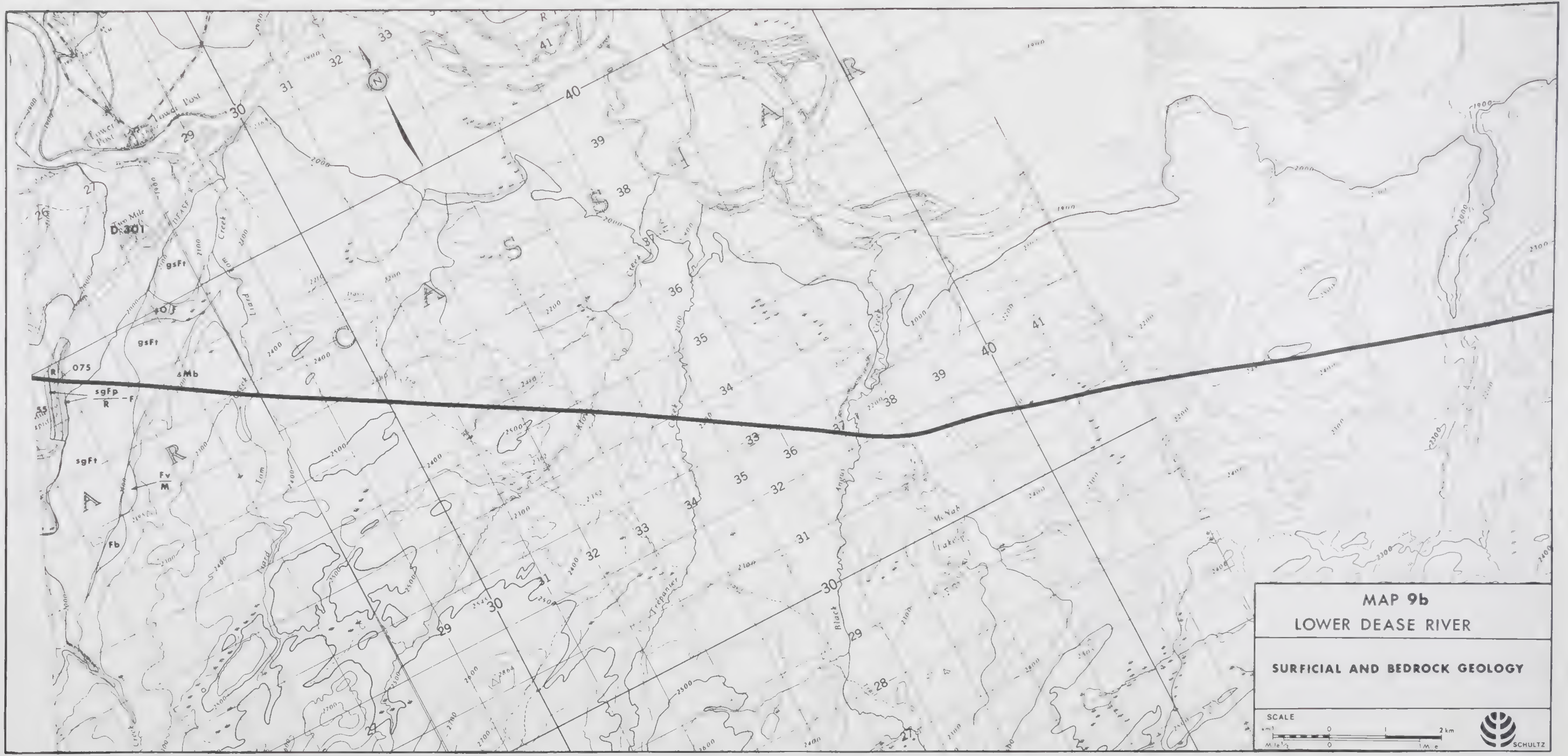

Old Fort Nelson
E100
E701
E702
E703
1317
LINE 10
MAP 7c
KLEDO - HAY MUSKEGS
SURFICIAL GEOLOGY
AND HYDROLOGY
SCALE
km 5 0 5 10 km
Miles 2 0 3 Miles
SCHULTZ


L 606
P 601
L 705
L 705
P 201
7-56
7-48
MAP 7 D
KLEDO - HAY MUSKEGS
LAND USE INVENTORY
SCALE
km 5 0 5 10 km
Miles 2 0 5 Miles
SCHULTZ


MAP 8a
PICKLE LAKE
BIOTA AND HYDROLOGY
SCALE
SCHULTZ
BRITISH COLUMBIA
McKinney Lake
E300
RIVER
RIVER

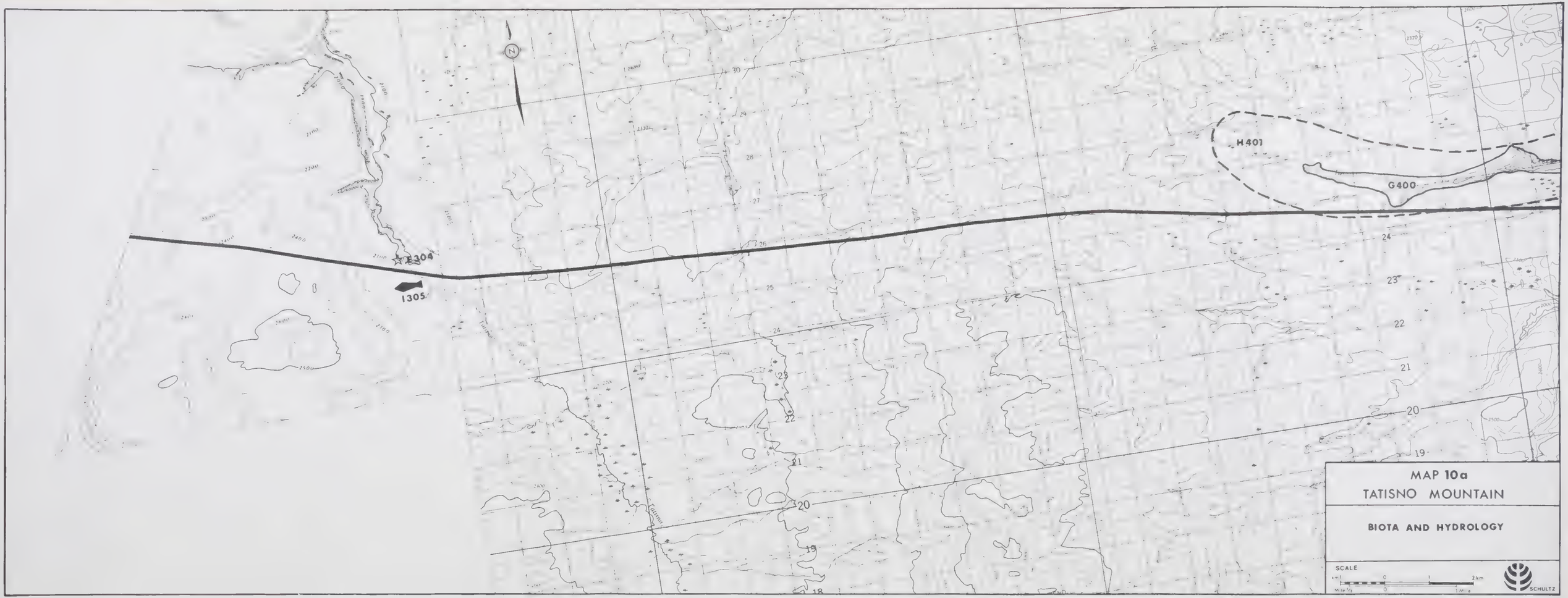

MAP 8b
PICKLE LAKE
SURFICIAL AND BEDROCK GEOLOGY
SCALE
SCHULTZ
McKinney Lake
Leo Lake
RIVER

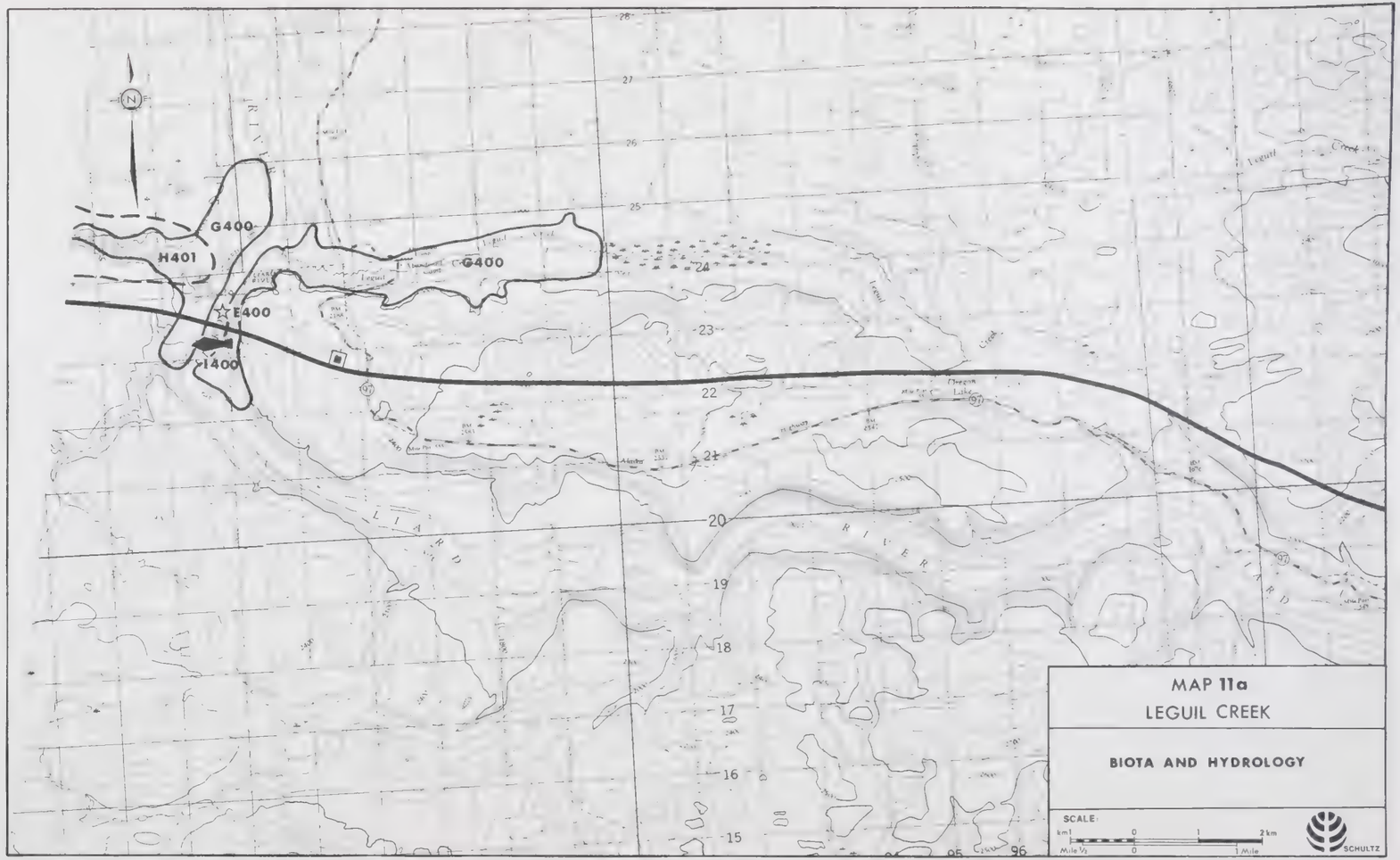

E 301
W 300
G 300
E302
E 303
I 301
I 302
I 303
I 304
H303
MAP 9a
LOWER DEASE RIVER
BIOTA AND HYDROLOGY
SCALE
SCHULTZ

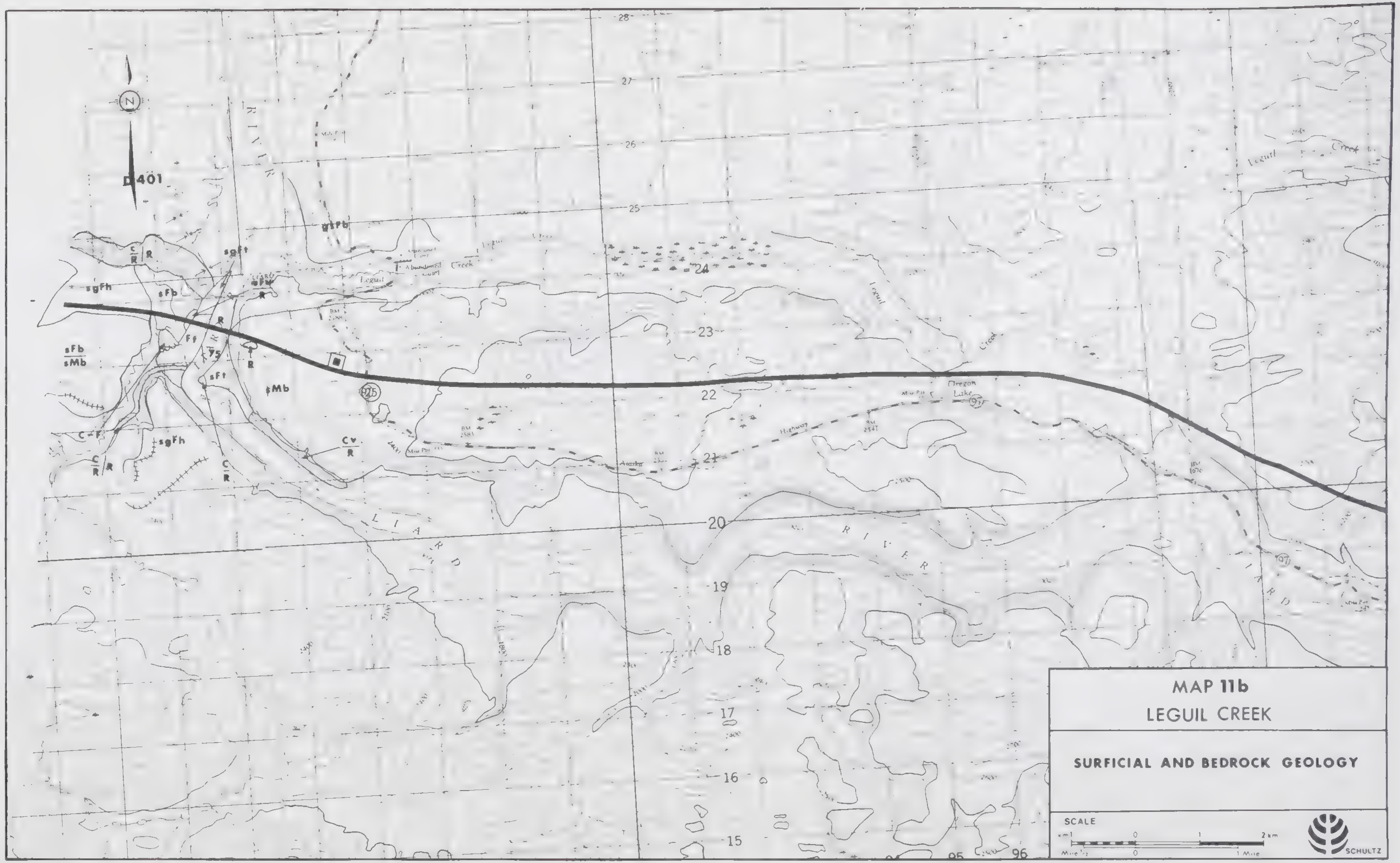


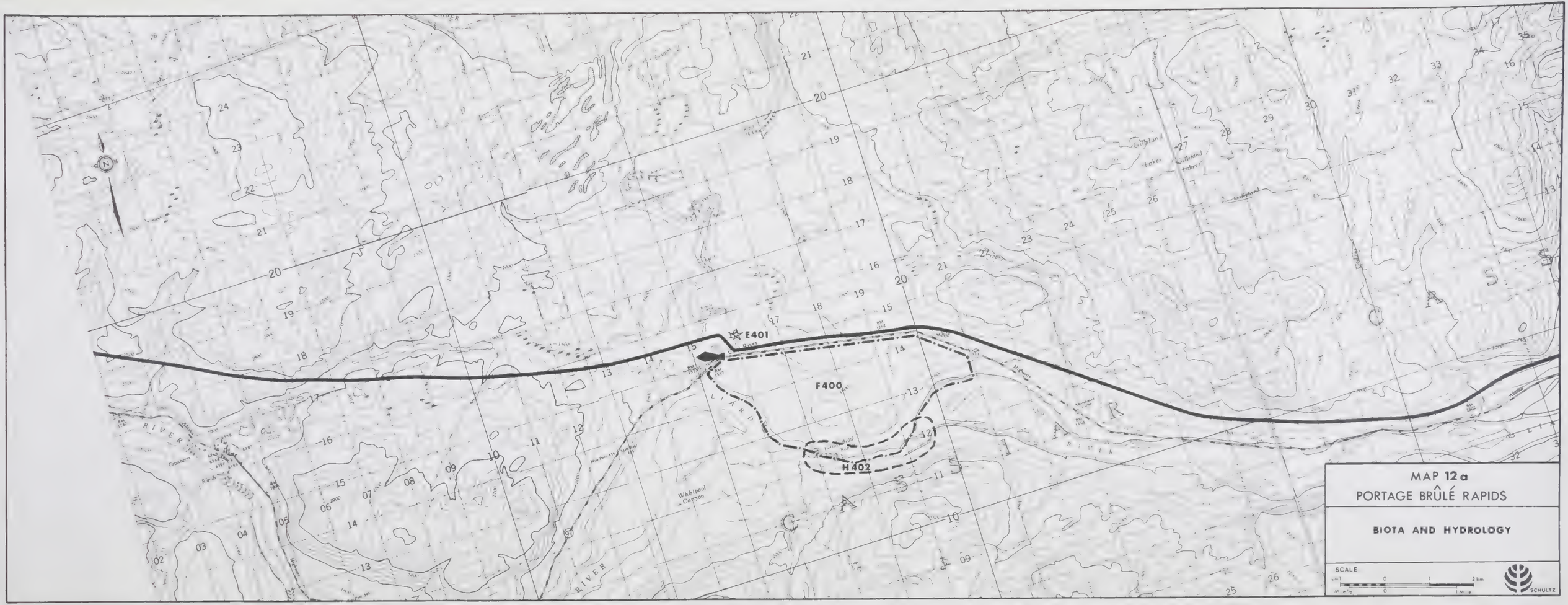
MAP 9b
LOWER DEASE RIVER

SURFICIAL AND BEDROCK GEOLOGY

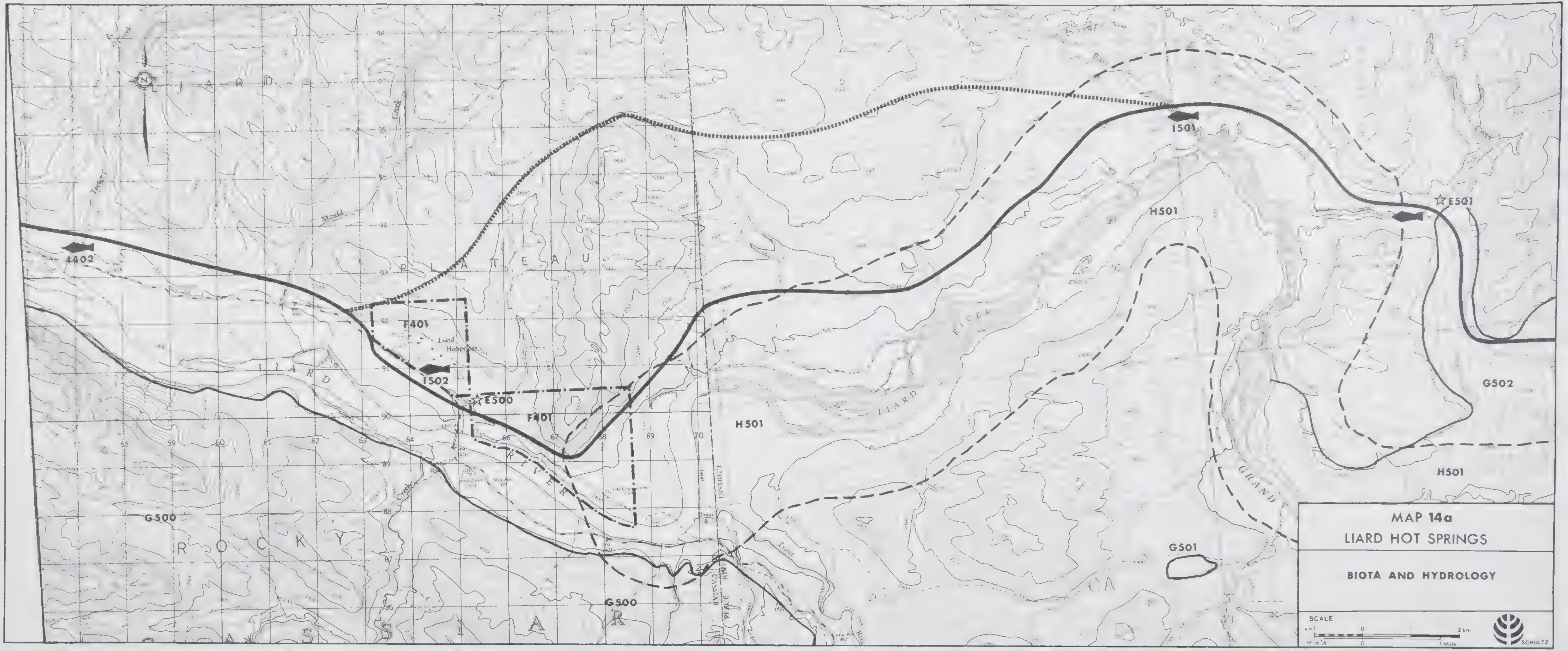

H401
G400
E304
1305
MAP 10a
TATISNO MOUNTAIN
BIOTA AND HYDROLOGY
SCALE
SCHULTZ


G400
H401
G400
E400
I400
MAP 11a
LEGUIL CREEK
BIOTA AND HYDROLOGY
SCALE:
km 1 0 1 2 km
Mile ½ 0 1 Mile
SCHULTZ

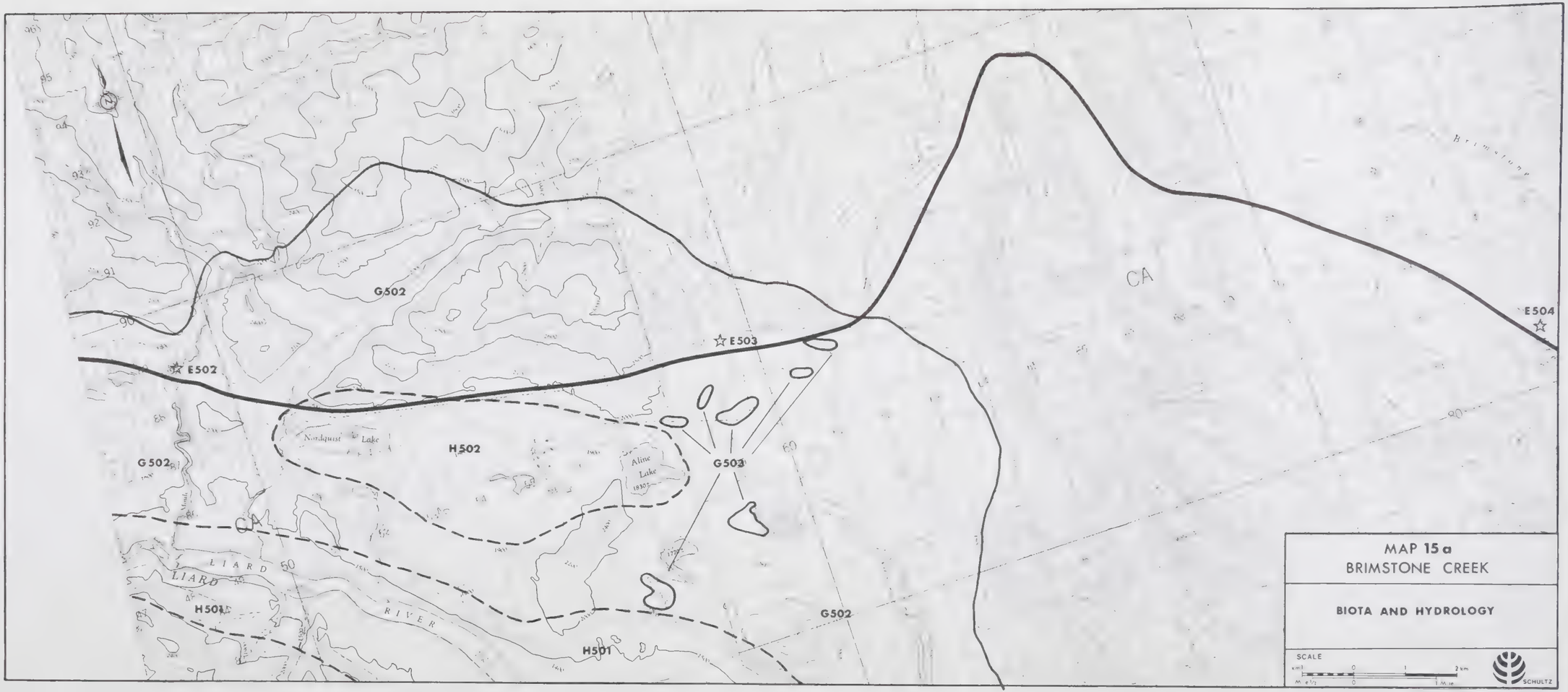

MAP 11b
LEGUIL CREEK
SURFICIAL AND BEDROCK GEOLOGY
SCALE
SCHULTZ
D401
N
LIARD RIVER
Leguil Creek
Abandoned Creek
Oregon Lake
Highway
sgFb
sgFt
sgFh
sFb
sFb/sMb
sMb
sFt
C/R
Cv/R
C-F
Ff


E401
F400
H402
Whirlpool Canyon
MAP 12a
PORTAGE BRÛLÉ RAPIDS
BIOTA AND HYDROLOGY
SCALE
SCHULTZ

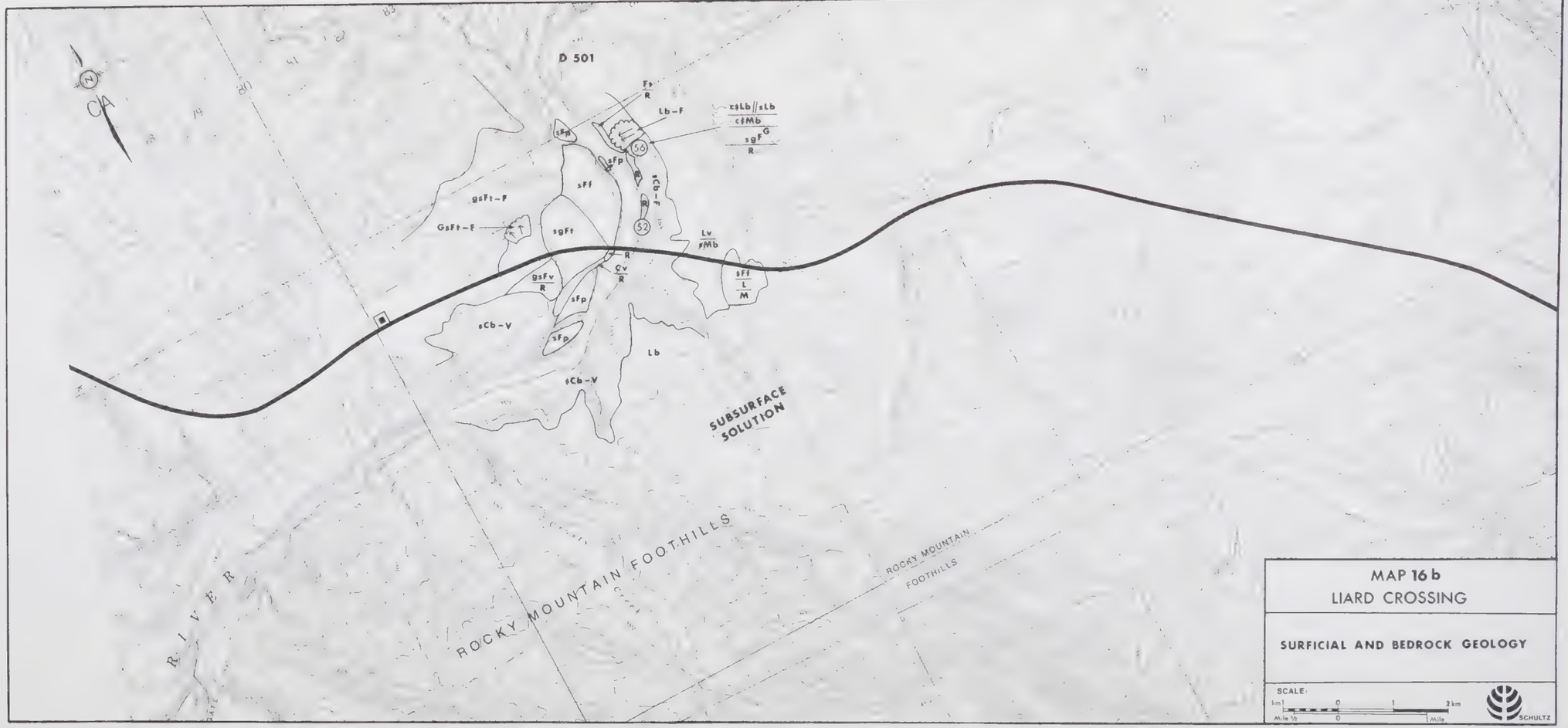

H403
E402
H404
G500
LIARD
RIVER
MAP 13 a
SMITH RIVER
BIOTA AND HYDROLOGY
SCALE
SCHULTZ



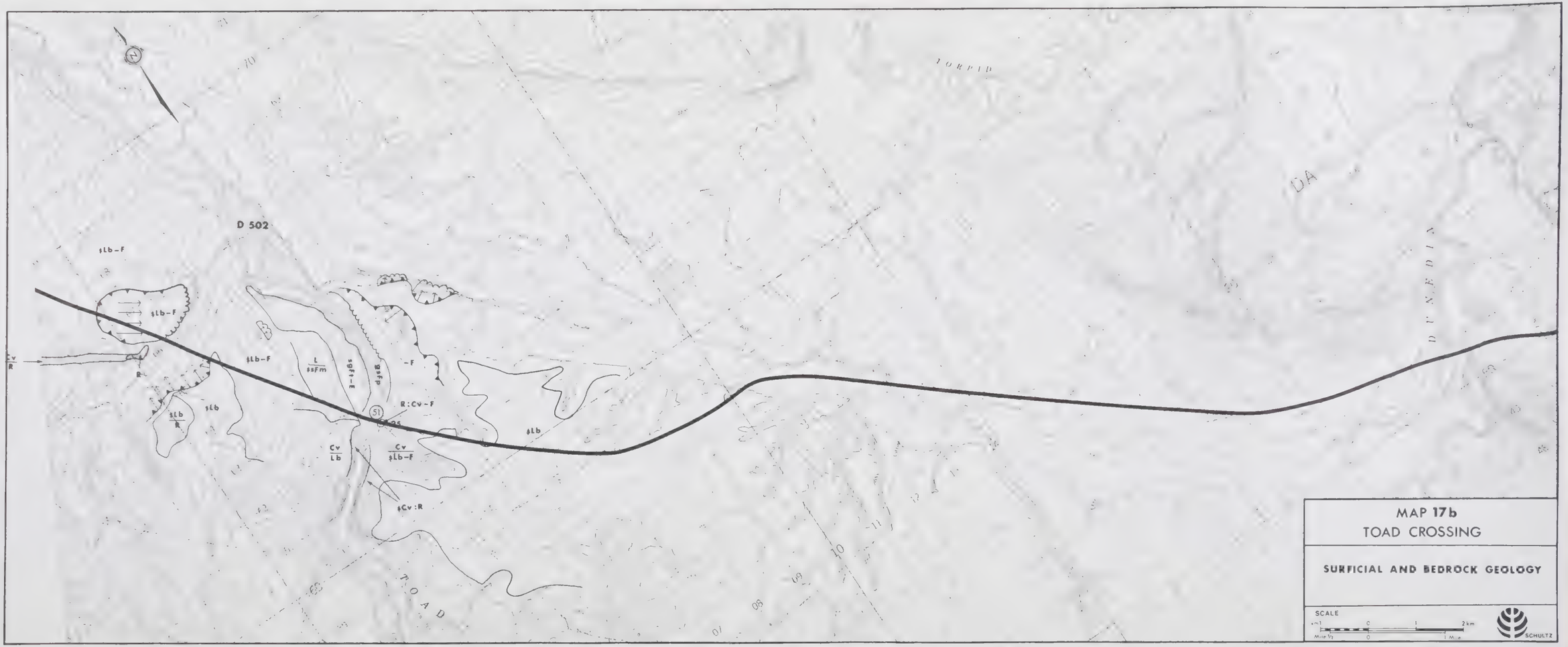
MAP 14a
LIARD HOT SPRINGS
BIOTA AND HYDROLOGY
SCALE
SCHULTZ
I402
I501
E501
H501
F401
I502
E500
F401
H501
G502
H501
G501
G500
G500
PLATEAU
ROCKY
LIARD
RIVER
GRAND
CASSIAR
DISTRICT


G502
E503
E502
E504
CA
H502
Nordquist Lake
Aline Lake
G503
G502
CA
LIARD
LIARD
RIVER
H501
H501
G502
MAP 15 a
BRIMSTONE CREEK
BIOTA AND HYDROLOGY
SCALE
SCHULTZ

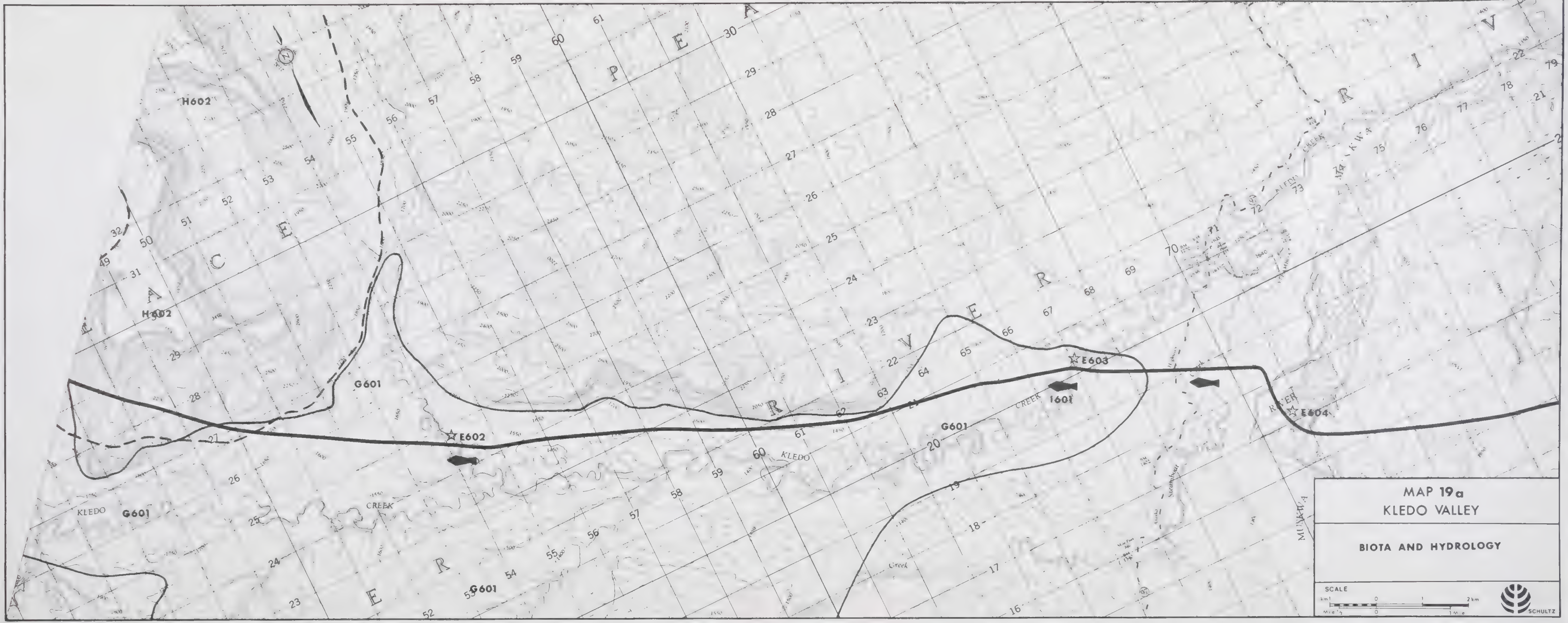

E505
E506
E507
E507
E507
H501
RIVER
ROCKY MOUNTAIN FOOTHILLS
ROCKY MOUNTAIN FOOTHILLS
MAP 16 a
LIARD CROSSING
BIOTA AND HYDROLOGY
SCALE
km
0
1
2 km
Miles
0
1 Mile
SCHULTZ


D 501
Ft
R
Lb-F
zgLb//sLb
c‡Mb
G
sgF
R
sFp
sFp
sFf
gsFt-F
GsFt-F
sgFt
sCb-V
Lv
‡Mb
R
Cv
R
gsFv
R
sFp
sFf
L
M
sCb-V
sFp
Lb
sCb-V
SUBSURFACE SOLUTION
ROCKY MOUNTAIN FOOTHILLS
ROCKY MOUNTAIN FOOTHILLS
RIVER
56
52
MAP 16b
LIARD CROSSING
SURFICIAL AND BEDROCK GEOLOGY
SCALE:
km 1 0 1 2 km
Mile ½ 0 1 Mile
SCHULTZ


H503
TORPID
G505
H601
H601
H503
E510
I503
E508
E509
H601
G505
TOAD
MAP 17a
TOAD CROSSING
BIOTA AND HYDROLOGY
SCALE
SCHULTZ


D 502
ŧLb-F
ŧLb-F
ŧLb-F
Cv/R
R
ŧLb/R
ŧLb
L/ŧFm
sgFt-E
sgFp
-F
R:Cv-F
51
Cv/Lb
Cv/ŧLb-F
ŧLb
ŧCv:R
ROAD
DUNEDIN
DA
MAP 17b
TOAD CROSSING
SURFICIAL AND BEDROCK GEOLOGY
SCALE
SCHULTZ


MAP 18c
ODAYIN CREEK
PERMAFROST
SCALE
2 km
1 Mile
SCHULTZ

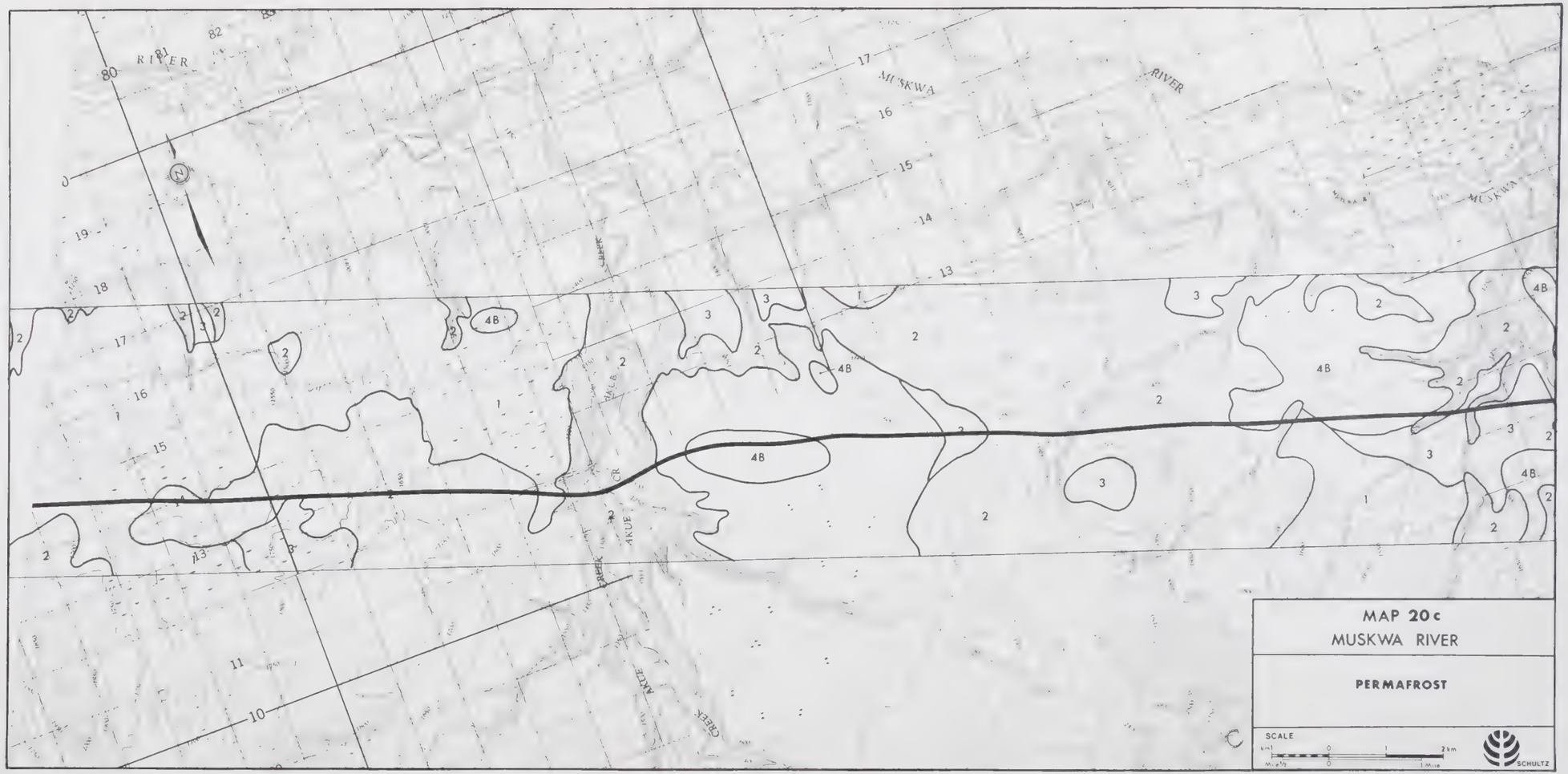

MAP 19a
KLEDO VALLEY
BIOTA AND HYDROLOGY
SCALE
SCHULTZ
PEACE RIVER
KLEDO CREEK
MUSKWA RIVER
H602
G601
I601
E602
E603
E604

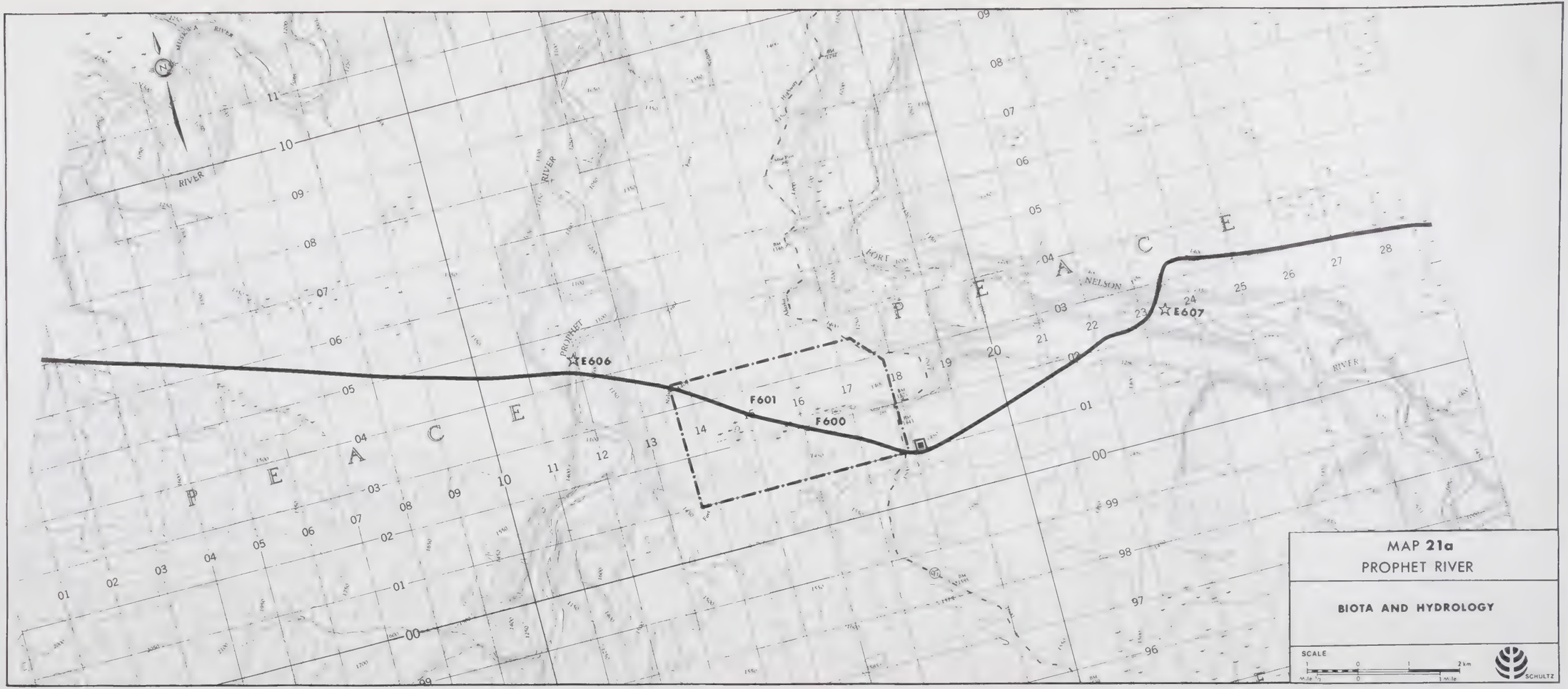

MAP 19b
KLEDO VALLEY
SURFICIAL AND BEDROCK GEOLOGY
SCALE
SCHULTZ
EROSION OF BANK
H HIGH WATER
L LOW WATER
PEACE RIVER
PEACE RIVER
KLEDO CREEK
KLEDO CREEK
MUSKWA RIVER
Steamboat
Creek
601


MAP 19c
KLEDO VALLEY
PERMAFROST
SCALE
km 1 0 1 2 km
Mile ½ 0 1 Mile
SCHULTZ
KLEDO
CREEK
MUSKWA


RIVER
MUSKWA
RIVER
MUSKWA
E605
AKUE
CREEK
AKUE
CREEK
MAP 20a
MUSKWA RIVER
BIOTA AND HYDROLOGY
SCALE
SCHULTZ

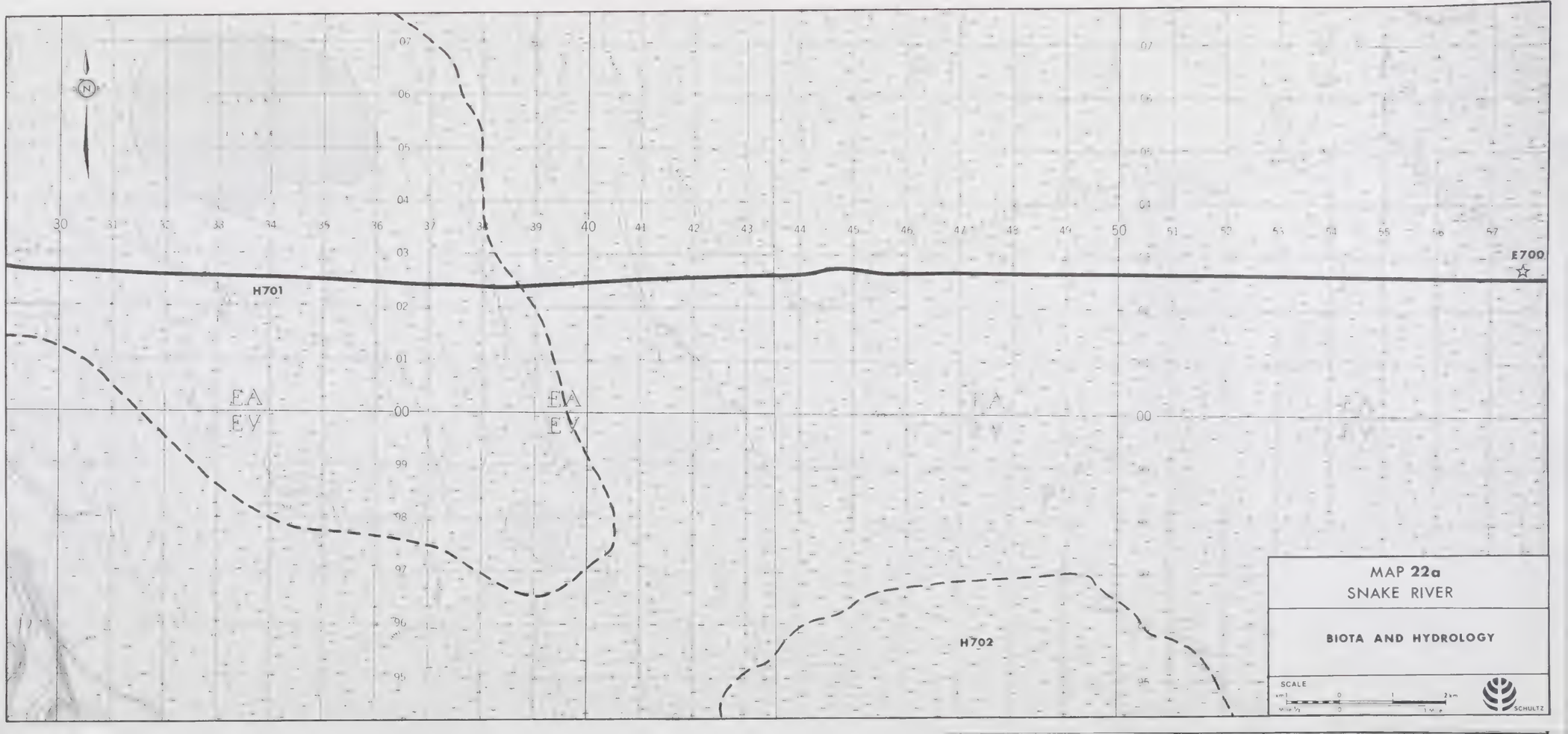

RIVER
MUSKWA
RIVER
D 602
ZONE OF KNOWN SLUMPING
MAP 20b
MUSKWA RIVER
SURFICIAL AND BEDROCK GEOLOGY
SCALE
SCHULTZ

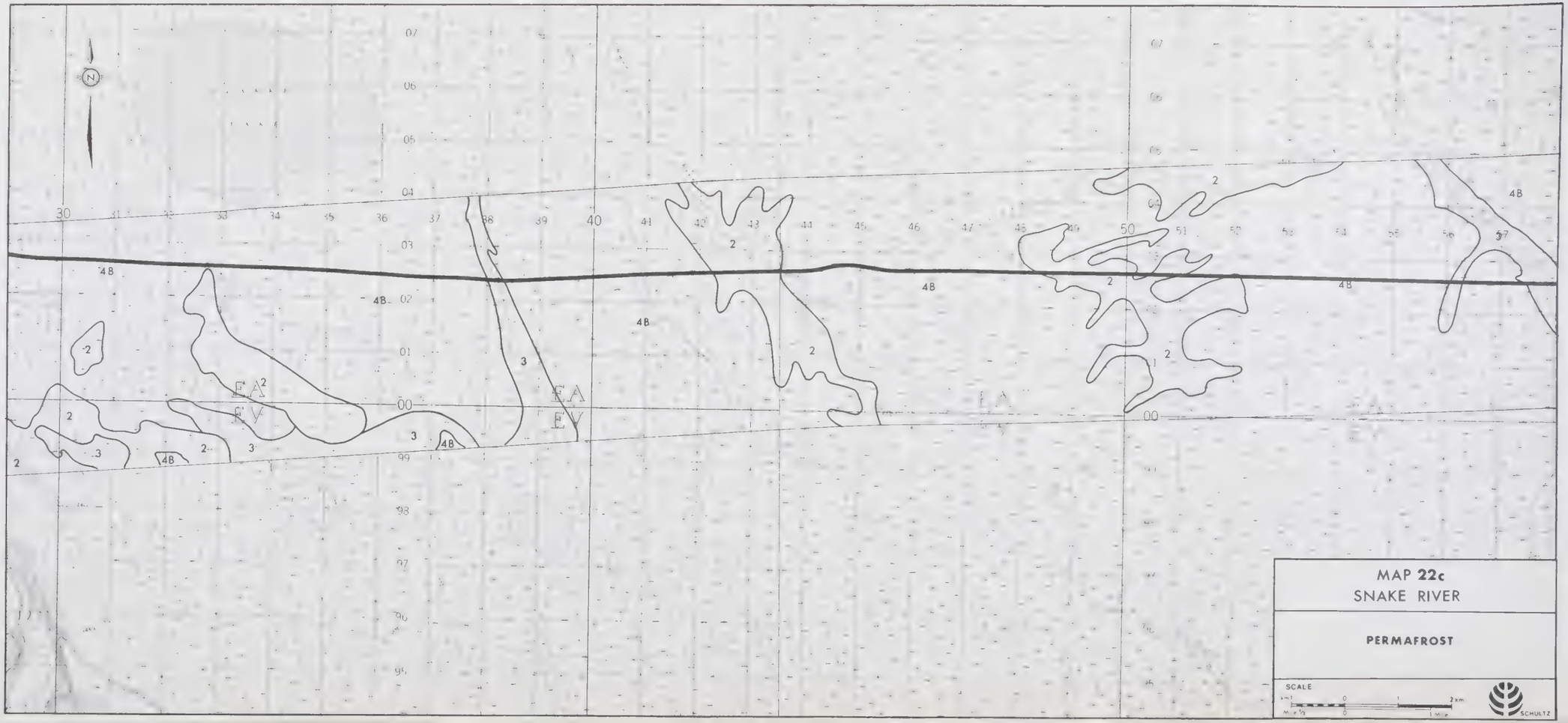

MUSKWA RIVER
MAP 20c
MUSKWA RIVER
PERMAFROST
SCALE
SCHULTZ

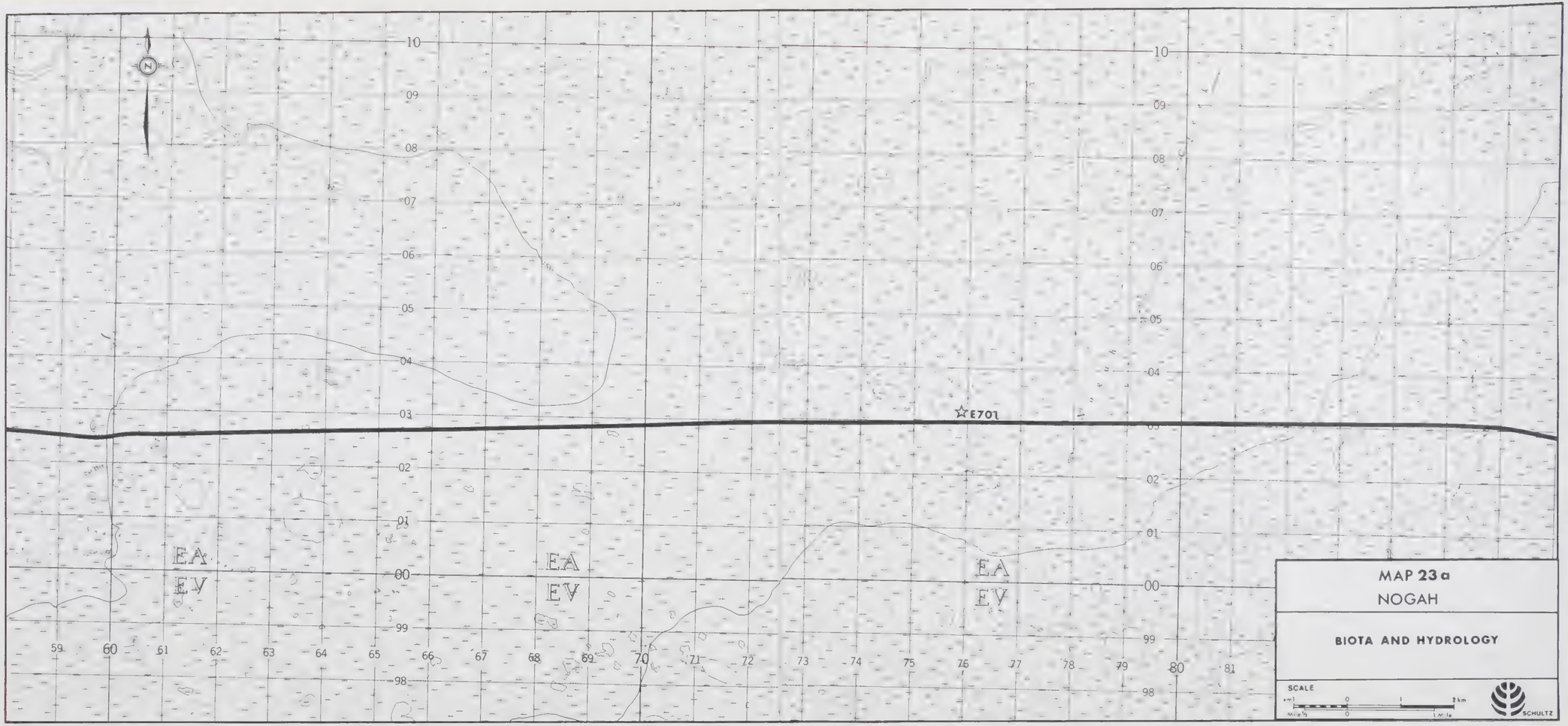

E606
E607
F601
F600
PEACE
RIVER
PROPHET
NELSON
FORT
MAP 21a
PROPHET RIVER
BIOTA AND HYDROLOGY
SCALE
2 km
1 mile
SCHULTZ


D 603
D 604
PEACE
RIVER
PROPHET
MAP 21b
PROPHET RIVER
SURFICIAL AND BEDROCK GEOLOGY
SCALE
SCHULTZ


MAP 21c
PROPHET RIVER
PERMAFROST
SCALE
SCHULTZ


H701
H702
E700
EA
EV
MAP 22a
SNAKE RIVER
BIOTA AND HYDROLOGY
SCALE
SCHULTZ


MAP 22c
SNAKE RIVER
PERMAFROST
SCALE
SCHULTZ



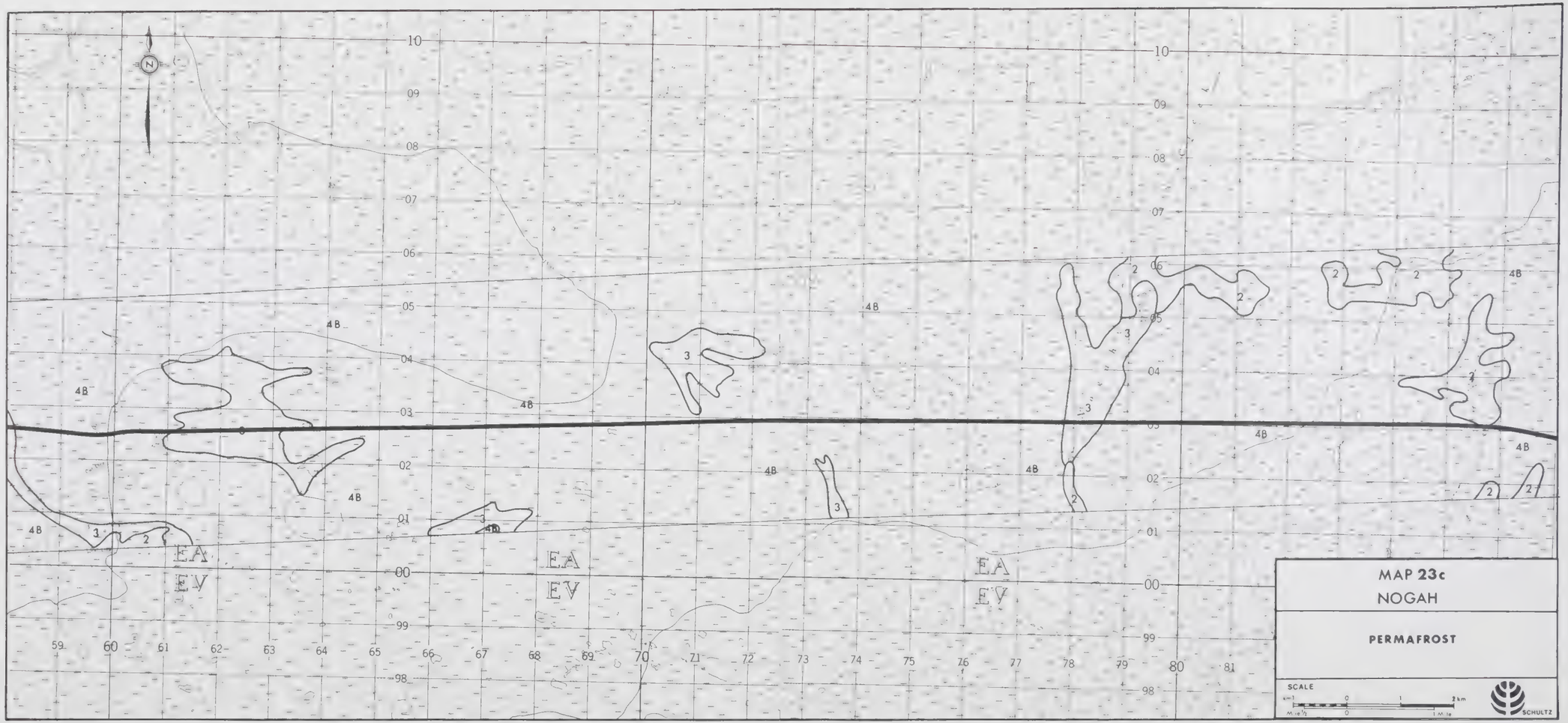
MAP 23a

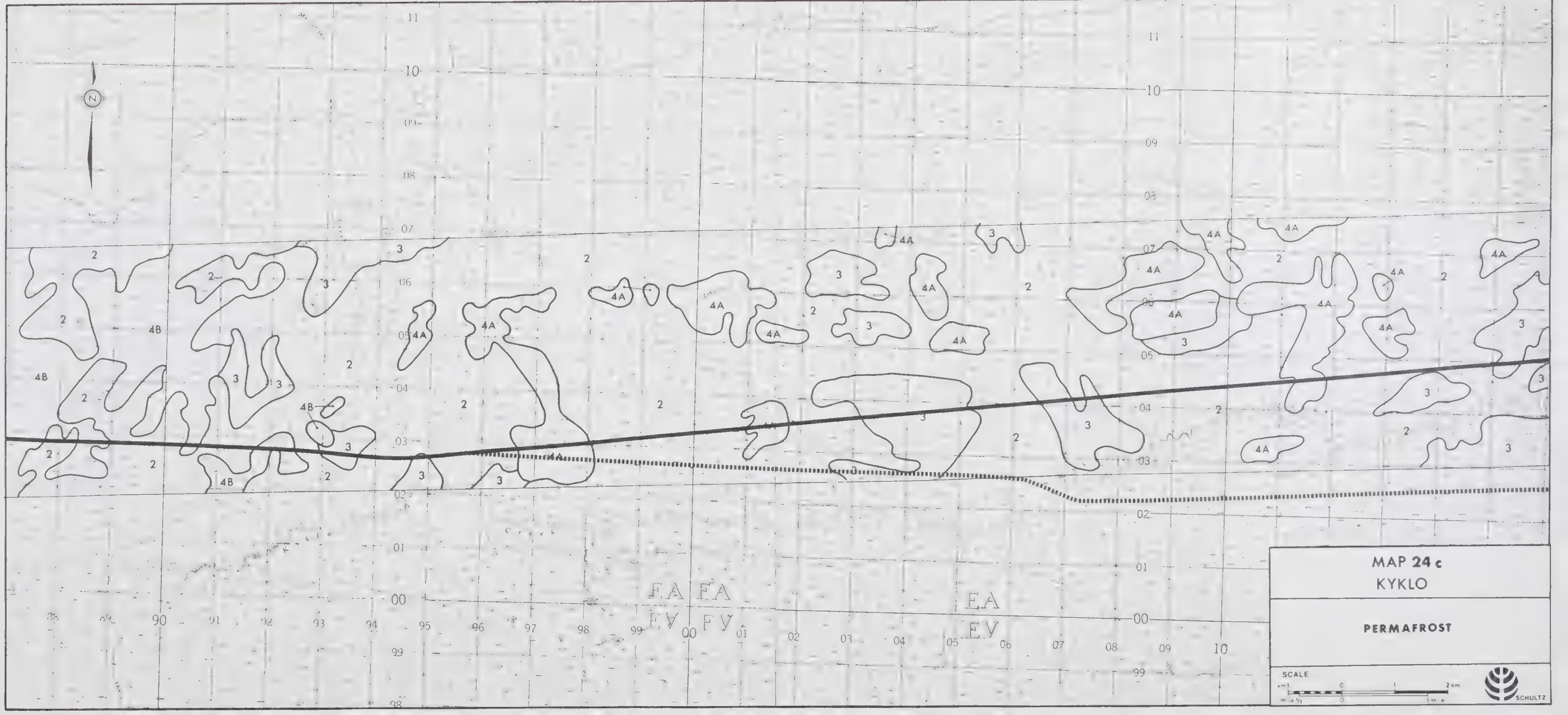
NOGAH

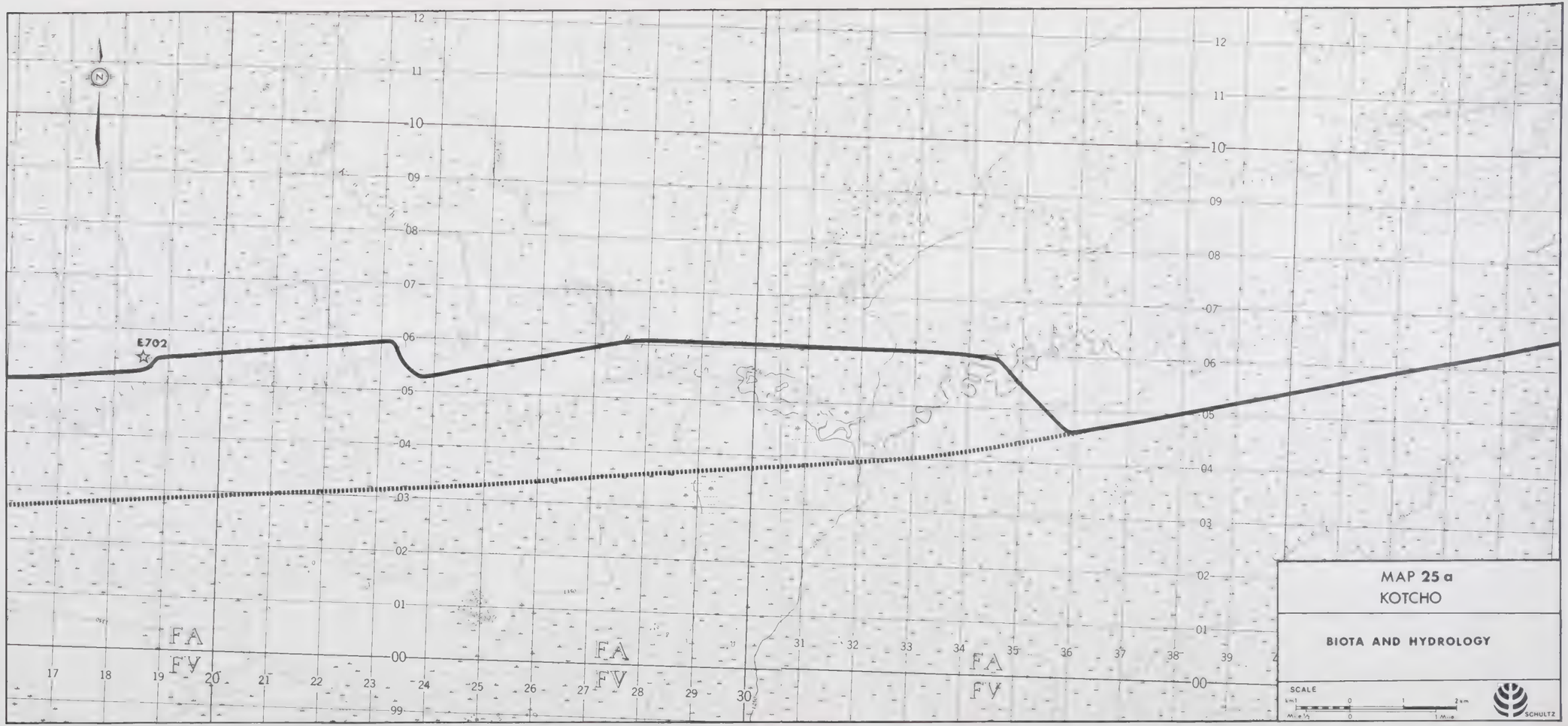
BIOTA AND HYDROLOGY

SCALE

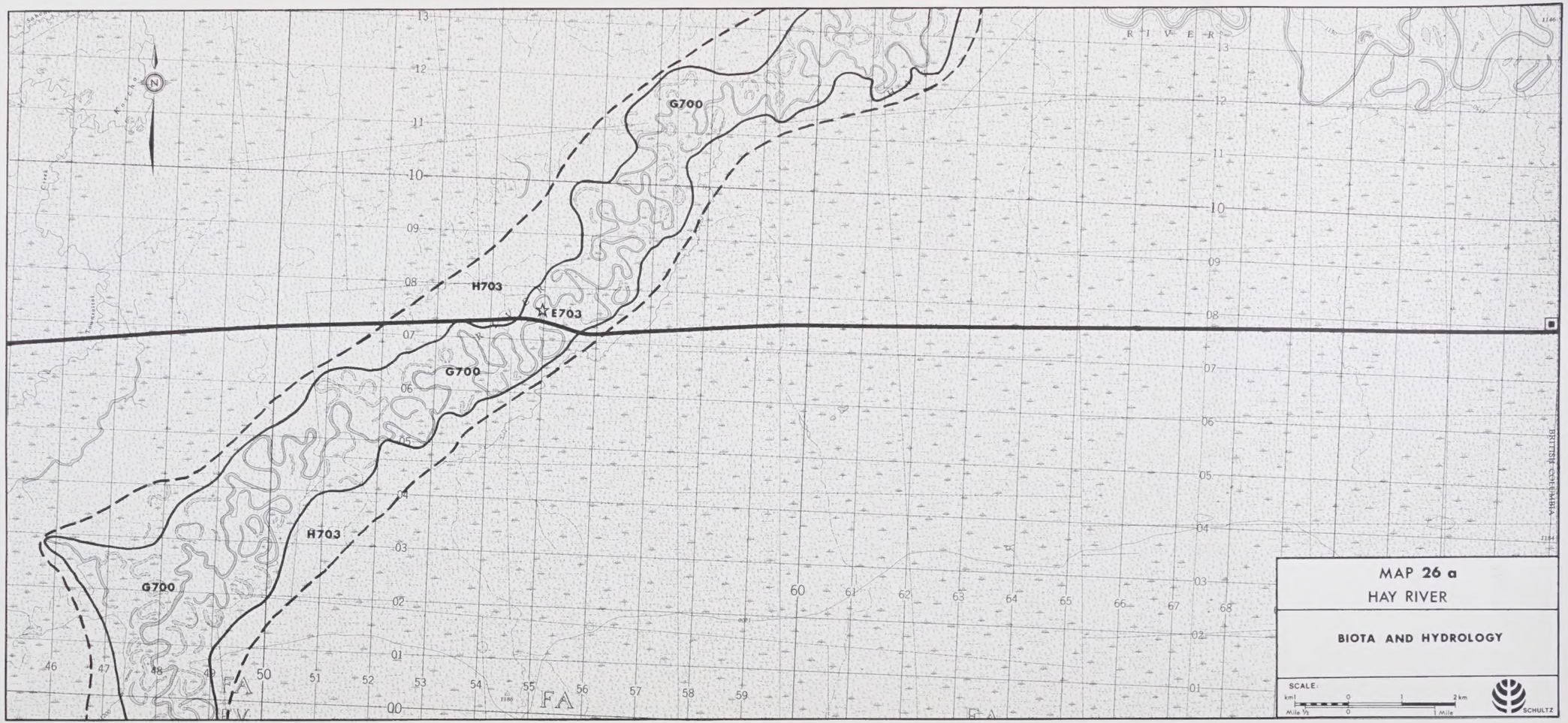
SCHULTZ

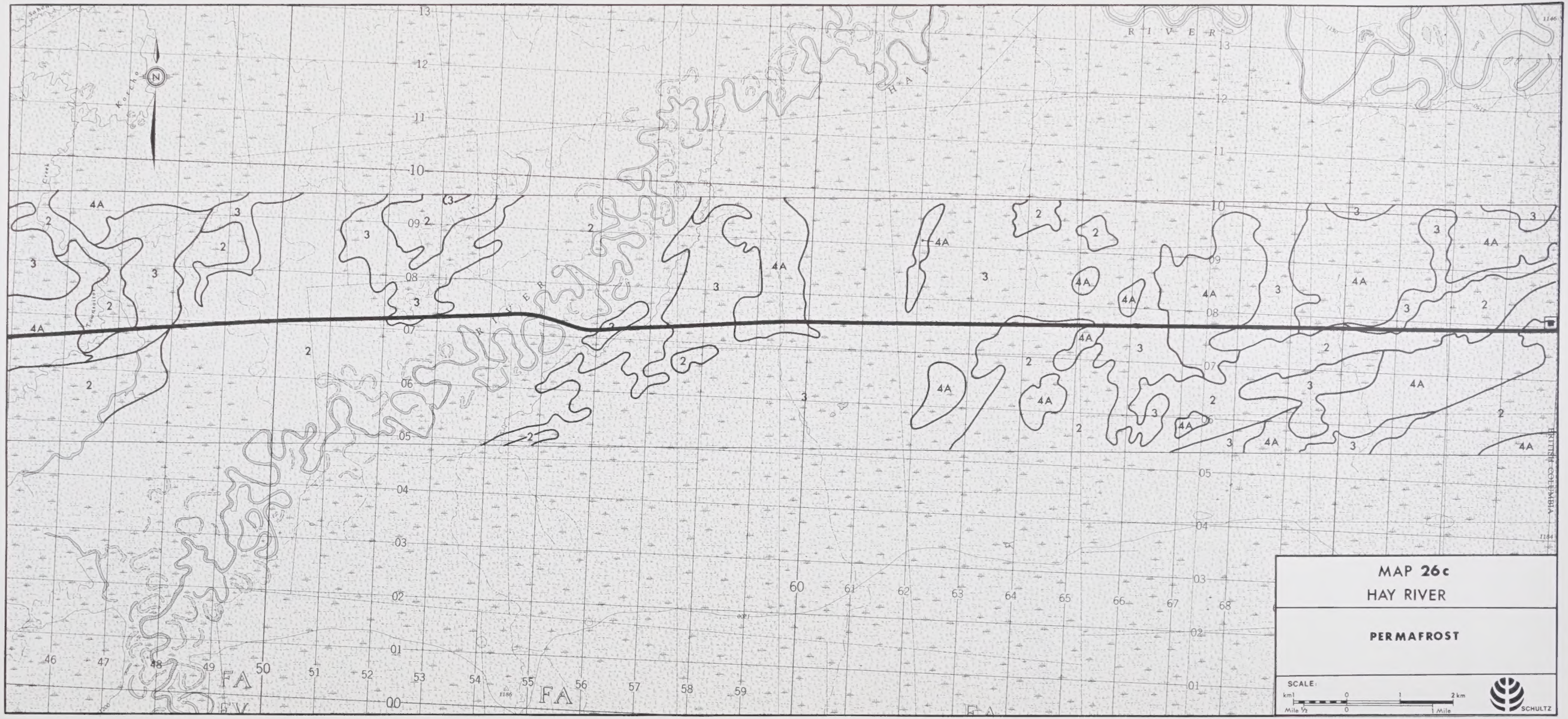

N
10
09
08
07
06
05
04
03
02
01
00
99
98
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
4B
3
2
EA
EY
MAP 23c
NOGAH
PERMAFROST
SCALE
SCHULTZ


MAP 24 c
KYKLO
PERMAFROST
SCALE
SCHULTZ
EA
EV
FA
FY
Creek


E702
FA
FV
FA
FV
FA
FV
MAP 25 a
KOTCHO
BIOTA AND HYDROLOGY
SCALE
SCHULTZ


MAP 25 c
KOTCHO
PERMAFROST
SCALE:
km 1 0 1 2 km
Mile ½ 0 1 Mile
SCHULTZ
FA
FV
4A


G700
H703
E703
G700
H703
G700
R I V E R
BRITISH COLUMBIA
MAP 26 a
HAY RIVER
BIOTA AND HYDROLOGY
SCALE:
km 0 1 2 km
Mile ½ 0 1 Mile
SCHULTZ


MAP 26c
HAY RIVER
PERMAFROST
SCALE:
km 1 0 1 2 km
Mile ½ 0 1 Mile
SCHULTZ
HAY RIVER
RIVER
BRITISH COLUMBIA
4A
3
2
FA